Nevada System of Higher Education (NSHE)

The Nevada System of Higher Education, comprised of two doctoral-granting universities, a state college, four comprehensive community colleges and one environmental research institute, serves the educational and job training needs of the nation's fastest growing state. The NSHE provides educational opportunities to more than 108,000 students and is governed by the Nevada Board of Regents.

Daniel Klaich, Chancellor

The Board of Regents wishes to advance student learning to the highest level, foster the expansion of knowledge through teaching and research, encourage community service, and enrich the lives of our students, our communities, our state, and the nation. In fulfillment of this purpose, we hold the following values at the center of our endeavor:

- Integrity
- Excellence
- Accountability
- Inclusiveness
- Creativity
- Innovation

Board of Regents

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Jim Livengood, Director of Intercollegiate Athletics

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Fred Tredup, Chief of Staff

Luis Valera, Interim Vice President for Diversity Initiatives and Government Relations

Rights of Privacy Act of 1974. The Federal Family Education Rights and Privacy Act of 1974 affords persons who are currently, or who were formerly, in attendance at the university as registered students a right of access to their educational records,“ which contain information directly related to such persons and the right to challenge the accuracy of their records. The act also restricts the persons to whom the university may disclose a student’s educational records without the student’s written permission. The university’s policy is to comply fully with all provisions of the act, and a detailed statement concerning the rights afforded current and former students is available, at no cost, in the office of UNLV’s General Counsel. Any person who feels the university has failed to comply with the Federal Family Education Rights and Privacy Act may file a complaint with the Family Education Rights and Privacy Act Office, Department of Education, 300
Annual Jeanne Clery Campus Safety and Security Report

In order to comply with provisions of “The Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act”, reports from the University community and local law enforcement agencies are compiled and published annually by the Department of Public Safety. As law enforcement professionals tasked with the maintenance of a safe and secure educational environment, it is our responsibility to provide a comprehensive report regarding the campus public safety environment including the incidence of crime.

Limitations. The 2011-2012 Graduate Catalog describes current academic programs of study, course descriptions and degree requirements at the graduate level for the academic year 2011-2012 at the University of Nevada, Las Vegas. The content of this catalog is current as of July 2011, but is subject to modification at any time to accommodate changes in university resources or educational plans.

This catalog does not constitute a contractual commitment that the university will offer all the courses or programs described, and the university reserves the right to revise catalog provision and fees at any time in accordance with the actions of the president, the Nevada System of Higher Education, or any other governing body.

The university reserves the right to eliminate, cancel, reduce in size or phase out courses, academic programs and/or limit enrollments in specific programs and courses, to change fees during the student’s period of study, and to require a student to withdraw from the institution for cause at any time.

Inquiries

Inquiries should be addressed to: Dean of the Graduate College, University of Nevada, Las Vegas, 4505 Maryland Parkway, Box 451017, Las Vegas, NV 89154-1017, (702) 895-3320, or call UNLV’s main switchboard at (702) 895-3011. Visit the UNLV Web site at http://www.unlv.edu.

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UNLV: Mission and Core Themes

The University of Nevada, Las Vegas, located in the vibrant and dynamic city of Las Vegas and surrounded by the Mojave Desert, embraces the traditional values of higher education adapted for the global community of the twenty-first century. UNLV assists students in meeting the intellectual and ethical challenges of responsible citizenship and a full and productive life through opportunities to acquire the knowledge and common experiences that enhance critical thinking, leadership skills, aesthetic sensitivity, and social integrity.

The university provides traditional and professional academic programs for a diverse student body and encourages innovative and interdisciplinary approaches to teaching, learning, and scholarship. UNLV simultaneously engenders collegial relationships and a sense of community among its members. UNLV embraces the interdependence of quality instruction, scholarly pursuits, and substantive involvements in campus and community life. The university offers artistic, cultural, and technical resources and opportunities to the broadest possible community. It promotes research programs and creative activities by students and faculty that respond to the needs of an urban community in a desert environment. UNLV is committed to developing a synergy between professional and liberal studies, between undergraduate education and graduate programs, and between superior teaching and meaningful research. UNLV increasingly is a dynamic resource for, and partner with, the community that it serves.

In its 50-year history, UNLV has undergone an amazing transformation from a small branch college into a thriving urban research institution of 28,000 students and 3,300 faculty and staff.

Along the way, the urban land-grant university has become a dynamic resource for one of the country’s fastest-growing and most enterprising cities. UNLV’s 332-acre main campus, located on the southern tip of Nevada in a desert valley surrounded by mountains, is home to more than 220 undergraduate, master's, and doctoral degree programs, all accredited by the Northwest Commission on Colleges and Universities.

UNLV Mission Statement

The University of Nevada, Las Vegas, is a research institution committed to rigorous educational programs and the highest standards of a liberal education. We produce accomplished graduates who are well prepared to enter the work force or to continue their education in graduate and professional programs. Our faculty, students, and staff enthusiastically confront the challenges of economic and cultural diversification, urban growth, social justice, and sustainability. Our commitment to our dynamic region and State centrally influences our research and educational programs, which improves our local communities. Our commitment to the national and international communities ensures that our research and educational programs engage both traditional and innovative areas of study and global concerns. UNLV’s distinctive identity and values permeate a unique institution that brings the best of the world to our region and, in turn, produces knowledge to improve the region and world around us.

UNLV is committed to and driven by these shared values that will guide our decision making:

- High expectations for student learning and success;
- Discovery through research, scholarship, and creative activity;
- Nurturing equity, diversity, and inclusiveness that promotes respect, support, and empowerment;
- Social, environmental, and economic sustainability;
- Strong, reciprocal, and interdependent relationships between UNLV and the region around us;
- An entrepreneurial, innovative, and unconventional spirit.
Core Themes and Objectives

UNLV is accredited by the Northwest Commission on Colleges and Universities (NWCCU). Each institution accredited by NWCCU established core themes as part of the revisions to the accreditation standards.

The core themes of UNLV, the objectives, and their indicators of achievement express the mission of the university. The core themes describe in broad statements what UNLV plans to accomplish and reflect the values that are shared by faculty, students and staff. Evaluation of the metrics associated with the indicators of achievement will demonstrate how effectively UNLV is carrying out its mission.

Core Theme 1: Promote Student Learning and Success

Objective 1: Recruit, retain, and graduate an engaged and diverse student body.
Indicators of Achievement:
- Academic preparation
- Recruitment and enrollment
- Alignment of campus resources to support retention/persistence and graduation
- Post-graduation education and employment

Objective 2: Provide a high quality teaching and learning experience.
Indicators of Achievement:
- Student academic performance
- Student satisfaction with major academic areas, quality of instruction, academic support, and institutional resources
- Faculty involvement and satisfaction with the teaching and learning environment
- Student involvement in research, creative activities, and co-curricular activities

Core Theme 2: Advance and Support Research, Scholarship, and Creative Activity.

Objective 1: Cultivate quality and productivity of research, scholarship, and creative activity.
Indicators of Achievement:
- Quality and quantity of publications and creative activities
- Quality and quantity of grants, contracts, patents, and licenses
- Levels of support for faculty and staff

Objective 2: Encourage student research, creative and professional practice activities.
Indicators of Achievement:
- Support research opportunities for graduate and undergraduate students
- Multidisciplinary, integrative collaborations in graduate education
- Mentoring and professional development of graduate students

Objective 3: Enhance the infrastructure and business practices that support research, scholarship, and creative activity in all pertinent units of the institution.
Indicators of Achievement:
- Availability and access to support staff and facilities
- Quality and quantity of space and equipment
- Technology, electronic initiatives, and
Core Theme 3: Foster Inclusion and Community Engagement

Objective 1: Foster an inclusive environment that values and encourages tolerance and respect.
Indicators of Achievement:

a. Efforts that ensure a civil and respectful learning and working environment
b. Support for learning about inclusion through both curricular and co-curricular activities

Objective 2: Promote scholarship that advances community partnerships and economic diversification.

Indicators of Achievement:

a. Community collaborations that address regional economic vitality, environmental stewardship, social well-being, and cultural understanding
b. Institutional support of and participation in partnerships with industry, government, and other entities

Objective 3: Cultivate a university community that promotes awareness of a diverse and changing world.

Indicators of Achievement:

a. Global partnerships
b. Campus and community engagement on evolving local, national, and global issues
A Message from UNLV President
Neal J. Smatresk

As the President of UNLV, I’m delighted to encourage you to consider graduate studies at the University of Nevada, Las Vegas. UNLV is a wonderful institution with exceptional programs, excellent faculty, and a supportive atmosphere where graduate education thrives.

As you explore graduate education at UNLV, you’ll be pleased to learn that nearly a quarter of UNLV’s students are currently enrolled in graduate/professional programs. This provides some indication of the significance of graduate studies at UNLV. We know that high quality graduate education is pivotal to the growth and sophistication of our institution. Through their research, scholarship and creative activity, UNLV graduate students are an important part of our campus intellectual community.

Graduate education supports the educational and research missions of the university, and plays a pivotal role in preparing tomorrow’s leaders in many professions. It enables our students to move into the workplace with the kind of preparation that only advanced study can provide. Further, UNLV graduate student scholarship is impactful regionally, nationally, and internationally. Alumni of our graduate programs are the professionals who lead our community in areas such as health care, education, law enforcement, social work, business, art, the sciences and engineering. Their contributions are vital to the quality of life that we enjoy here in Southern Nevada.

Again, I welcome your interest in UNLV, and I encourage you to join us in our dedication to research and graduate education. Together we will create a bright future for our university and our community.

Dr. Neal J. Smatresk
UNLV President

The President's Cabinet

The president's cabinet is composed of the university's vice presidents, assistant president/chief of staff, general counsel, President's Advisory Council chair, and athletic director. The cabinet's mission is to provide advice and counsel to the president on matters regarding policies, procedures, and strategic planning.

Michael Bowers, Ph.D.
Interim Executive Vice President and Provost

Gerry Bomotti
Senior Vice President for Finance and Business

William G. Boldt, Ed.D.
Vice President for Advancement

Juanita Fain, Ph.D.
Vice President for Student Affairs

Jim Livengood
Director of Intercollegiate Athletics

Marta Meana, Ph.D.
Senior Advisor to the President

Elda Luna Sidhu, Esq.
General Counsel

Ronald Smith, Ph.D.
Vice President for Research and Dean of the Graduate College

Fred Tredup, Ed.D.
Chief of Staff

Luis Valera, J.D.
Interim Vice President for Diversity Initiatives and Government Relations
## Academic Calendar

### Fall Semester 2011

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 29</td>
<td>Instruction begins.</td>
</tr>
<tr>
<td>September 5</td>
<td>Labor Day recess.</td>
</tr>
<tr>
<td>October 28</td>
<td>Nevada Day recess.</td>
</tr>
<tr>
<td>November 11</td>
<td>Veterans Day recess.</td>
</tr>
<tr>
<td>November 24-25</td>
<td>Thanksgiving Day recess.</td>
</tr>
<tr>
<td>December 5-10</td>
<td>Study Week.</td>
</tr>
<tr>
<td>December 10</td>
<td>Instruction ends.</td>
</tr>
<tr>
<td>December 12-17</td>
<td>Final examinations.</td>
</tr>
<tr>
<td>December 17</td>
<td>Semester ends.</td>
</tr>
<tr>
<td>December 17</td>
<td>Fall Commencement.</td>
</tr>
</tbody>
</table>

### Spring Semester 2012

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 16</td>
<td>Martin Luther King, Jr.</td>
</tr>
<tr>
<td>January 17</td>
<td>Instruction begins.</td>
</tr>
<tr>
<td>February 20</td>
<td>Washington's Birthday recess.</td>
</tr>
<tr>
<td>March 10</td>
<td>Mid-semester.</td>
</tr>
<tr>
<td>April 2</td>
<td>Spring Break begins</td>
</tr>
<tr>
<td>April 7</td>
<td>Spring Break ends.</td>
</tr>
<tr>
<td>April 30</td>
<td>Study Week begins.</td>
</tr>
<tr>
<td>May 5</td>
<td>Study Week ends.</td>
</tr>
<tr>
<td>May 5</td>
<td>Instruction ends.</td>
</tr>
<tr>
<td>May 12</td>
<td>Semester ends.</td>
</tr>
<tr>
<td>May 12</td>
<td>Spring Commencement.</td>
</tr>
</tbody>
</table>

### Summer Session 2012 I

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 14</td>
<td>Instruction begins.</td>
</tr>
<tr>
<td>May 28</td>
<td>Memorial Day Recess</td>
</tr>
<tr>
<td>June 2</td>
<td>Instruction ends.</td>
</tr>
</tbody>
</table>

### Summer Session 2012 II

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 4</td>
<td>Instruction begins.</td>
</tr>
<tr>
<td>July 4</td>
<td>Independence Day</td>
</tr>
<tr>
<td>July 7</td>
<td>Instruction ends.</td>
</tr>
</tbody>
</table>

### Summer Session 2012 III

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 9</td>
<td>Instruction begins.</td>
</tr>
<tr>
<td>August 11</td>
<td>Instruction ends.</td>
</tr>
</tbody>
</table>

*Dates are subject to change*
Degree Programs

Accounting – M.S.
Anthropology – M.A.; Ph.D.
Architecture – M. Arch
Aerospace Engineering – M.S.
Art – M.F.A
Astronomy – M.S.; Ph.D.
Biochemistry – M.S.
Biological Sciences – M.S.
Biomedical Engineering – M. S.
Business Administration – M.B.A.; Executive M.B.A.
Business Administration/Dental Medicine – Dual M.B.A./D.M.D.
Business Administration/Hotel Administration – Dual M.B.A./M.S.
Business Administration/Law – Dual M.B.A./J.D.
Business Administration/Management Information Systems – Dual M.B.A./M.S.
Chemistry – M.S.; Ph.D.
Civil & Environmental Engineering – M.S.E.; Ph.D.
Clinical Mental Health M.S.
Communication Studies – M.A.
Community Health Counseling – M.S.
Computer Science – M.S.C.S.; Ph.D.
Construction Management – M.S.C.S.
Creative Writing – M.F.A.
Criminal Justice – M.A.
Crisis and Emergency Management – M.S.
Curriculum & Instruction – M.Ed.; M.S.; Ed.S.; Ed.D.; Ph.D.
Economics – M.A.
Education/Law – Dual Ph.D in Education/J.D.
Educational Psychology – M.S.; Ed.S.; Ph.D.
Educational Psychology & Juris Doctor Dual Ph.D./J.D.
Electrical & Computer Engineering – M.S.E.E.; Ph.D.
English – M.A.; Ph.D.
Environmental & Occupational Health – M.P.H.
Environmental Science – M.S.; Ph.D.
Ethics & Policy Studies – M.A.
Exercise Physiology – M.S.
Film, Screenwriting – M.F.A.
Foreign Languages – M.A.
Geosciences – M.S.; Ph.D.
Health Care Administration – M.H.A.
Health Physics – M.S.
Health Promotion – M.Ed.
Higher Education Leadership – Ph.D.
Higher Education Leadership – M.Ed.
History – M.A.; Ph.D.
Hospitality Administration – Executive M.H.A; Ph.D.
Hotel Administration – M.S.
Hotel Administration/M.B.A – Dual M.S./M.B.A.
Hotel Administration/M.I.S. – Dual M.S./M.I.S.
Informatics – M.S.; Ph.D.
Journalism & Media Studies – M.A.

Kinesiology – M.S.
Learning & Technology – Ph.D.
Management Information Systems – M.S.
Management Information Systems & Business Administration
Dual M.S./M.B.A.
Management Information Systems & Hotel AdministrationDual M.S
Marriage & Family Therapy – M.S.
Materials & Nuclear Engineering – M.S.
Mathematical Sciences – M.S.; Ph.D.
Mechanical Engineering – M.S.E., Ph.D.
Music – M.M.
Musical Arts – D.M.A.
Nursing – M.S.N.; D.N.P.; Ph.D.
Physical Therapy – D.P.T.
Physics – M.S.; Ph.D.
Political Science – M.A.; Ph.D.
Psychology – Ph.D.
Public Administration – M.P.A.
Public Affairs – Ph.D.
Public Health – M.P.H.; Ph.D.
Radiochemistry – Ph.D.
School Counseling – M.Ed.
Science – M.A.S.
Social Work – M.S.W.
Social Work/Law – Dual M.S.W./J.D.
Sociology – M.A.; Ph.D.
Spanish, Hispanic Studies – M.A.
Special Education – M.Ed.; M.S.; Ed.S.; Ed.D.; Ph.D.
Teacher Education – Ph.D.
Theatre – M.A.; M.F.A.
Transportation – M.S.T.
Water Resources Management – M.S.
Workforce Education & Development – M.Ed; M.S.

Graduate and Advanced Graduate Certificate Programs
Addiction Studies (Counselor Education)
Advanced Graduate Certificate in Accounting (Accounting)
Graduate Certificate in Accounting (Accounting)
Graduate Certificate in Management (Management)
Family Nurse Practitioner (Nursing)
Finance Graduate Certificate (Finance)
Forensic Social Work (Social Work)
Management Information Systems (Management Information)
Marriage & Family Therapy (Marriage & Family Therapy)
Mental Health Counseling (Counselor Education)
New Venture Management Graduate Certificate (Management)
Nonprofit Management (Public Administration)
Nursing Education Post-Masters Certificate (Nursing)
Pediatric Nurse Practitioner Certificate (Nursing)
Public Management (Public Administration)
Women’s Studies (Women’s Studies)
### Program Accreditations

All programs at UNLV are accredited by the Northwest Commission on Colleges and Universities (NWCCU).

UNLV’s international programs are approved by the Council on International Educational Exchange (CIEE).

For more accreditation information, visit the UNLV Program Accreditations webpage.

#### Accounting
- The Association to Advance Collegiate Schools of Business (AACSB)

#### Architecture
- National Architectural Accrediting Board (AACSB)

#### Art
- National Association of Schools of Art and Design (NASAD)

#### Athletic Training
- Commission on Accreditation of Athletic Training Education (CAATE)

#### Chemistry
- The Association to Advance Collegiate Schools of Business (AACSB)

#### Phlebotomy Certificate
- National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)

#### Computer Science
- Accreditation Board for Engineering and Technology (ABET)

#### Construction Management
- American Council for Construction Education (ACCE)

#### Didactic Program in Dietetics
- Accreditation Council for Education in Nutrition and Dietetics (ACEND)

#### Dental Medicine
- Commission on Dental Accreditation (CODA)

#### Economics
- The Association to Advance Collegiate Schools of Business (AACSB)

#### Education
- The National Council for Accreditation of Teacher Education (NCATE)

#### Engineering
- Accreditation Board for Engineering and Technology (ABET)

#### Gerontology
- Association for Gerontology in Higher Education (AGHE)

#### Health Care Administration
- Association of University Programs in Health Administration (AUPHA)

#### Health Education
- American Association for Health Education (AAHE)

#### Health Physics
- Applied Science Accreditation Commission of the Accreditation Board for Engineering and Technology (ASAC ABET)

#### Interior Architecture and Design
- Council for Interior Design Accreditation (CIDA)

#### Landscape Architecture
- Landscape Architects Accreditation Council (LAAB)
<table>
<thead>
<tr>
<th>Program</th>
<th>Accrediting Body</th>
</tr>
</thead>
<tbody>
<tr>
<td>Law</td>
<td>American Bar Association (ABA) (member of AALS)</td>
</tr>
<tr>
<td></td>
<td>Association of American Law Schools</td>
</tr>
<tr>
<td>Marriage and Family Therapy</td>
<td>Commission on Accreditation for Marriage and</td>
</tr>
<tr>
<td></td>
<td>Family Therapy Education (COAMFTE)</td>
</tr>
<tr>
<td>Music</td>
<td>National Association of Schools of Music (NASM)</td>
</tr>
<tr>
<td>Nuclear Medicine</td>
<td>Joint Review Committee on Educational Programs in</td>
</tr>
<tr>
<td></td>
<td>Nuclear Medicine Technology (JRCNMT)</td>
</tr>
<tr>
<td>Nursing</td>
<td>National League for Nursing (NLN)</td>
</tr>
<tr>
<td>Physical Education</td>
<td>National Association for Sport &amp; Physical Education (NASPE)</td>
</tr>
<tr>
<td>Physical Therapy</td>
<td>Commission on Accreditation in Physical Therapy</td>
</tr>
<tr>
<td></td>
<td>Education (CAPTE)</td>
</tr>
<tr>
<td>Psychology (Clinical)</td>
<td>American Psychological Association (APA)</td>
</tr>
<tr>
<td>Public Administration</td>
<td>National Association of Schools of Public Affairs</td>
</tr>
<tr>
<td></td>
<td>and Association (NASPAA)</td>
</tr>
<tr>
<td>Radiography</td>
<td>Committee on Education in Radiologic Technology</td>
</tr>
<tr>
<td></td>
<td>(JRCERT)</td>
</tr>
<tr>
<td>Recreation – Professional Golf</td>
<td>Professional Golf Association (PGA)</td>
</tr>
<tr>
<td>Management</td>
<td></td>
</tr>
<tr>
<td>Social Work</td>
<td>Council on Social Work Education (CSWE)</td>
</tr>
<tr>
<td>Theatre</td>
<td>National Association of Schools of Theatre (NAST)</td>
</tr>
</tbody>
</table>
Division of Research & Graduate Studies

As Vice President for Research and Graduate Dean, I would like to extend a warm welcome to those interested in graduate study at UNLV. I believe you will find our graduate programs among the best in the country, attracting the best and brightest students nationally and internationally.

Offering nearly 130 graduate degree programs, including 36 doctoral and professional degrees, UNLV provides wide-ranging and unique areas of study to more than 5,000 graduate and professional students. The UNLV Graduate College seeks to provide its students with the highest quality academic experience, including excellent opportunities for research, scholarship, and creative activity. We pride ourselves on cultivating a campus culture that promotes involvement of graduate students in these activities.

We also seek to identify new and innovative ways to meet graduate students’ needs. We provide ample opportunities for financial assistance, offering a wide variety of assistantships, fellowships, and scholarships, and we maintain a customer service orientation in our effort to meet student needs beyond the classroom and laboratory.

The Graduate College looks forward to working with your academic department to facilitate your education. We are dedicated to enhancing your experience at UNLV and will do our very best to guide you as you pursue graduate study.

Ron Smith, Ph.D.
Vice President & Graduate Dean
Division of Research and Graduate Studies

The UNLV Graduate College

The Graduate College strives to achieve the institutional mission by supporting a wide range of excellent master’s and doctoral degree programs in the major areas of human knowledge—the physical sciences, the social sciences, the humanities, and the arts—as well as in professional fields that respond to local, state-wide, and regional needs. It is clear that our institution’s mission of becoming a premier metropolitan research university with academically excellent programs that focus on student needs as well as issues and problems of the local community and state of Nevada rests, in large part, with the direction, growth and quality of UNLV graduate education. This commitment is further supported by
the integration of the university’s research and graduate program management into the Office of Research and Graduate Studies. This structure strategically links the on-going development of UNLV’s research infrastructure with graduate education and directly enhances scholarship opportunities for graduate students.

The Graduate College seeks to support and advance graduate education, including the student learning, the research, scholarly, and creative activities, and the community and institutional services associated with it. The Graduate College is ideally suited to fulfill this purpose and, in this capacity, will assist academic departments and colleges as well as coordinate efforts with student service and administrative offices to meet the needs and interests of graduate students, graduate faculty, and graduate programs; encourage programs and programmatic emphases that meet the challenges of our rapidly growing local population, state, and region as well as the challenges facing the nation and world; articulate a standard of intellectual excellence that pervades university discussions and decisions about matters that affect graduate education; provide university-wide policies and guidance which define good practice in graduate program administration; and bring faculty and students together to encourage intellectual communication, multidisciplinary and interdisciplinary graduate instruction; and cooperative research and artistic projects.

The Graduate College, in all of its policies and actions, must reinforce and encourage that the institution is an intellectual community where students, faculty, and programs with different backgrounds and interests all pursue advanced knowledge and seek improvement of the human condition for the twenty-first century. This shared purpose ultimately defines the most important reason for the existence of a Graduate College and the larger community.

Equal Opportunity

It has been, and will continue to be, the policy of the University of Nevada, Las Vegas, to be an equal opportunity institution. All decisions of admissions and employment are based on objective standards that will further the goals of equal opportunity.

The university is committed to assuring that all programs and activities are readily accessible to all eligible persons without regard to their race, color, religion, gender, national origin, ancestry, age, disability, Vietnam-Era and/or disabled veteran status, any protected class under relevant state and federal laws, and, in accordance with university policy, sexual orientation.

Persons having questions regarding university policies relating to nondiscrimination law are encouraged to contact the Office of Human Resources and Diversity Initiatives, Campus Services Building, room 237 or call (702) 895-3504.

Your Graduate School Experience

The reasons for enrolling in graduate school are as varied as the people who make up the graduate student population. Your decision to seek an advanced degree means that you share with other UNLV graduate students a spirit of adventure that comes with discovery—discovery of new information, new skills—and discovery of the depths of your own intellectual abilities. You will also share a capacity for hard work, because graduate study, whatever the subject matter, is difficult. But at the end of the rigorous and oftentimes exhilarating graduate coursework and research in your chosen field, you will have the satisfaction of having mastered a body of knowledge that places you in an elite group. Earning your graduate degree will be an achievement that marks the beginning of a professional career, more than an end of your academic studies. Your graduate degree will prepare you to engage with other experts in your field and to move forward to make notable contributions in your area of study and beyond.

The university’s advanced degree programs are based on close working relationships between students and faculty. Although most programs can be developed to
meet the needs and interests of the individual student, the student must also satisfy all departmental and Graduate College requirements. Therefore, it is important that all students carefully read the appropriate sections of this catalog and stay in close contact with the faculty members in their degree program. Students are responsible for being aware of and observing the policies and regulations stated in the Graduate Catalog. Please note that ignorance of campus policies is not a sufficient reason for exemption from said policies.

The Graduate Dean and the Senior Associate Dean, with the advice of the Graduate Council determines policies and procedures of the Graduate College. The Council consists of one delegate from each academic department that houses an advanced degree program, and it operates with standing committees. The Graduate and Professional Student Association also has representatives on the Graduate Council. The Graduate Dean and Senior Associate Graduate Dean are ex-officio members of the Graduate Council and each standing committee.

Once enrolled as a student, you will have various responsibilities within the academic community. The conduct of all persons affiliated with the University of Nevada, Las Vegas is governed by the Rules and Disciplinary Procedures for Members of the University Community. This code outlines the responsibilities of students, faculty, staff and administration as well as the rules, sanctions and hearing procedures in effect on the campus. Printed copies of the code are available in the Registrar’s Office. The UNLV Student Conduct Code is available through the UNLV Office of Student Conduct.

Additional information may be found in this catalog and on the Graduate College website.

Services for Graduate Students

The Graduate College offers services to support graduate students in many different areas. In cooperation with various offices at the University of Nevada, Las Vegas, Graduate Student Services seeks to provide information and programs aimed at the unique needs of graduate students.

Orientation: Every semester, prior to the beginning of classes, the Graduate College conducts an orientation for new graduate students and graduate assistants. Each department and/or program offering a graduate degree provides additional orientation and advising for new students.

Recruitment: UNLV is committed to growing selectively, serving the region, and achieving distinction. In recognition of this commitment, the Graduate College works with academic departments who seek to develop, implement, coordinate, and monitor their recruitment programs and outcomes. The UNLV Graduate College also proudly participates in the McNair Scholars Program, which helps to identify and prepare under represented and minority students for graduate school.

Thesis and Dissertation Support: For many programs, the thesis or dissertation represents the culmination of the graduate experience. These students’ final theses and dissertations must conform to the formatting guidelines established by the Graduate College, and students must submit a single hard copy of the final document, as well as an electronic copy, before conferral of their graduate degree. The Graduate College provides guidance, oversight and direction to graduate students and faculty concerning the policies and procedures for final submission of the thesis or dissertation.

Professional Development Programs: The Graduate College works with other campus units to provide a formal, value-added experience for graduate students that will enhance their career development in the areas of teaching, research, and
other scholarly skills.

**Student Advising Services:** The Graduate College advising services provide informal and student-centered issue-resolution services, and general non-academic advising advice, to graduate students and prospective graduate students. The office offers guidance, information, and assistance when regular channels have failed to provide graduate students with the information that they need to solve problems or make informed decisions.

*Note: The office does not provide academic advising; students must consult with the graduate coordinator or their designated faculty advisor in their own graduate program, or program of interest, for academic guidance.*

**Graduate and Professional Student Association**

The Graduate & Professional Student Association was formed in 1980 to provide additional opportunities for graduate students to interact, both socially and academically, and to provide a forum for dealing with problems specific to graduate student life. The GPSA’s primary goals are to improve the quality of graduate education and the graduate student experience, and to offer graduate student grants for research and other scholarly projects.

Each department on campus has a graduate student GPSA representative who attends GPSA meetings, participates on GPSA committees, and communicates all pertinent information concerning the GPSA to his/her constituents. The GPSA has graduate student representation on all standing committees of the Graduate College, and participates in at least one community service project each semester.

The GPSA office provides a study area, a copy service and a computer lab, all in the Lied Library. The office is open year round, all day, and some evenings. Meetings are held on the first Monday of every month in the Student Union, and all graduate students are encouraged to attend and participate. For more information visit the GPSA website, or contact the GPSA office in Lied Library, Room 3251, or call (702) 895-2261.

**Admission & Registration Information**

Admission to the Graduate College at the University of Nevada, Las Vegas is competitive. The rules and criteria established by the Board of Regents, University, Graduate College, and individual graduate programs determine admissibility. Applicants must meet minimum admissions requirements as established by the Graduate College; once they do so, the graduate program makes their final recommendations on admission based on the application materials required by the department.

The Graduate College processes applications and supporting materials on a rolling basis as received. Application deadlines vary by department; applicants should contact the department where they are seeking admission to get this information. In consultation with the Graduate College, departments have the right to establish additional admission standards and criteria. It is the responsibility of the applicant to contact the appropriate department for information on additional departmental admission requirements. Please note that applicants must submit admissions materials to both the Graduate College and their graduate program of interest simultaneously in order to apply for admission. The process below describes the Graduate College requirements; please also follow the requirements, guidelines and deadlines of your degree program of interest.

**Policies & Procedures**

Admission Requirements
Admission Status and Classification of Students
Grading System

Immunization Requirement
Nevada Residency
Registration Policies
Transcripts of Credit
Admission Requirements

Requirements for Domestic Applicants

Applicants must meet the following academic requirements:

1. Hold a baccalaureate or advanced graduate degree from a regionally accredited four-year college;
2. Have a minimum overall grade point average of 2.75 (4.00=A) for the bachelor’s degree, or a minimum 3.00 GPA (4.00=A) for the last two years of study;
3. A student who has an advanced degree from an accredited college or university with a minimum overall GPA of 3.00 may, at the option of the Graduate Dean and department, be admitted to an advanced degree program with an undergraduate grade point average of at least 2.00 but less than 3.00.

Requirements and Procedures for International Applicants

International applicants are considered for the Graduate Standing classification only. Besides the admission requirements listed previously, international applicants from countries where English is not the native language, or who did not receive a degree from an institution where English is the language of instruction, must show competency in English. The Graduate College requires a minimum score of 550 (written), or 213 (computerized), or 80 (internet-based) on the Test of English as a Foreign Language (TOEFL), 85 on the Michigan Test, or a 7 band or higher on the International English Language Testing System (IELTS).

Credentials not written in English must be accompanied by an English translation certified as true by a university official, an official representative of a United States embassy or consulate, the United States Information Service, the United States Education Foundation, or an approved professional translating service. Notarized copies of originals or translations are not considered official.

International applicants must submit a completed Certificate of Finance to the Office of International Students & Scholars, must satisfy the financial eligibility requirements, and receive their Letter of Admission from the Graduate College by July 1 if admitted for fall semester and November 15 if admitted for the spring semester before an I-20 will be issued.

For information concerning matters not related directly to the degree program (housing, fees, etc.), contact the Office of International Students and Scholars. Once admitted, international students must consult with this office and their academic advisor.

Application Procedures for Domestic and International Applicants

To be considered for admission, prospective students must complete two simultaneous application processes: one in the Graduate College and the other in the department that offers your program of study. The Graduate College requires the same application and admission materials from all prospective graduate students, regardless of department of interest. Individual academic departments may require satisfactory composite scores on standardized tests, letters of recommendation, a personal statement, portfolio, or any combination of these or other items. Because departmental requirements vary, please refer to your department of interest for specific application requirements and deadlines.

To apply to the Graduate College, submit the following admission materials for consideration:

- A completed application: The application is available for you to fill-out online by selecting the “Applying to Graduate School” link on the Graduate College homepage at http://graduatecollege.unlv.edu.
- A nonrefundable admission application fee, payable to the Nevada System of Higher Education by check, money order, or online
by credit card. *Note: Applications and materials will not be processed until the application fee is received. Applicants to multiple UNLV graduate programs must pay the admission application evaluation fee for each application filed. Denied applicants, who later seek admission to the same or other UNLV degree program, are required to pay an additional application fee to cover processing.

- **One official transcript from every postsecondary institution the applicant has attended,** showing all degrees and coursework, the dates awarded, and extension and correspondence work.*Note:* Only transcripts sent directly from the institution are considered official. Failure to disclose all course work and/or degrees awarded will result in rescission of admission.

- **Send Graduate College admission materials to:**
  
  University of Nevada, Las Vegas  
  Graduate College  
  FDH 352 Box 451017  
  4505 S. Maryland Parkway,  
  Las Vegas, NV 89154-1017

- Mailing addresses for specific graduate programs are available on department websites via the Graduate College website. Applicants must submit admission materials to your department of interest by their deadline. Because departmental requirements vary, please be sure to refer to your department of interest for specific application requirements. Many graduate programs require some or all of the following documentation:

- **One official transcript from all postsecondary institutions attended,** showing all degrees and the dates awarded and extension and correspondence work. Only transcripts sent directly from the institution are considered official. Some departments only require unofficial transcripts; please check with your department of interest to confirm.

- **Letters of recommendation sent by former instructors, employers, or other professionals** who can evaluate the applicant’s potential to complete graduate study.

- **Resume, portfolio, etc.** Some departments may request additional materials (i.e., resume, portfolio, statement of purpose, writing samples, and the like).

- **Standardized test scores.** In addition, some departments may require satisfactory composite scores on the Graduate Record Examination (GRE), Graduate Management Admission Test (GMAT), Miller Analogies Test (MAT), or other standardized tests. Information concerning standardized examinations required for admission to the degree program is available from the Student Development Center. Some examinations are given only four or five times a year and require that registration be completed a minimum of six weeks prior to the test date. With the exception of the Miller Analogies Test (MAT), students may take the required tests at other colleges or universities if taking them at UNLV is inconvenient for the applicant.

**The Admission Process**

1. A Student Admission File is created upon receipt of an admission application and fee. Applications are not processed until the Graduate College receives all required credentials. To avoid processing delays, students must submit the online admission application and fee prior to sending additional materials (i.e., transcripts, test scores, letters of recommendation, etc.). Applicants are responsible for making sure the Graduate College and department receive the appropriate credentials by the required deadlines. All application materials, including transcripts, become the property of
the university and may not be released to the applicant or any individual.

2. The Graduate College evaluates the application materials and forwards them to the department for review. Upon review of the materials, the department will make a recommendation to the Dean of the Graduate College for approval. Early submission of all application materials to the Graduate College and department simultaneously, facilitates a more expeditious review process.

3. Applicants will be notified of their admission status on their Apply Yourself page (online). Those accepted to pursue a UNLV graduate degree will receive a Letter of Admission from the Graduate College. The Letter of Admission is an important document that the student should retain.

4. The admission process is completed upon enrollment in graduate-level courses for the specified term and degree program indicated on the Letter of Admission. Failure to enroll or withdraw from all course work, during the semester of admission will void the Letter of Admission.

Note: Occasionally a student may be admitted with deficient undergraduate preparation contingent on the deficiency being corrected by completing one or two undergraduate courses early in the graduate program. Students needing more than two undergraduate courses are advised to consult with the department for a recommendation on which courses they should take to meet the prerequisite admission requirements. These courses will not apply toward the advanced degree. Most College of Education departments require a minimum of 18 undergraduate credit hours in professional education courses. Nevada professional certification may be considered as fulfilling this requirement. To be considered for admission for a future semester, the student must reapply and submit another application processing fee.

Transfer Work

Courses used to fulfill requirements for one degree may not be used toward another degree. For UNLV Non-Degree Seeking graduate students, a maximum of 15 graduate credits taken at UNLV may be applied toward a graduate program. Graduate work with a grade of B or higher (3.00, A=4.00) may be transferable into a degree program subject to departmental and Graduate Dean approval. Grades of B-or lower, and courses graded on a satisfactory pass/fail basis, are not transferable into graduate degree programs. With the department and Graduate College approvals, no more than one-third of the minimum number of credits required for the degree (not including credits for thesis, dissertation, and professional/scholarly papers) may be transferred from an accredited graduate degree granting institution.

Second Admission or Readmission to the Graduate College

Students may apply for a second master’s degree (in a different department) or a doctoral degree after completing a master’s degree. In these cases, students must submit a new application for admission, the fee, and supporting credentials required by the Graduate College and the new department or program.

The Graduate College issues only two Letters of Admission without earning a degree. If a degree results from the admission, there is no limit to the number of allowable future admissions.

Change of Department

Students are admitted to pursue an advanced degree in a specific department or program. To change to another department or program, students must submit a new application for admission, the required application fee, and all necessary admission credentials to the Graduate College. Upon admission, the student must withdraw in writing from the original department. Graduate students may not be enrolled in two degree programs simultaneously.
Revocation of Admission

It is assumed that the information provided on the application for admission is complete and accurate. Subsequent evidence to the contrary may result in the admission being revoked and the loss of any credit or degree stemming from the admission. To reapply for admission after a revocation, a new application and fee are required. Students should contact the Graduate College to determine what additional materials are needed. Materials from the previous application, such as official transcripts, may be used.

Admission Status and Classification of Students

Graduate Standing

Students accepted to pursue a program leading to an advanced degree are classified as having Graduate Standing. The Graduate Standing classification allows students to plan and matriculate in a degree program, to request formation of an advisory committee, and to be assigned or select a faculty advisor, depending on the degree program.

Graduate Provisional

Students whose previous academic records are not strong enough to merit Graduate Standing may be granted probationary admission and classified as Graduate Provisional. This classification does not apply to students with deficiencies or insufficient undergraduate credits in the chosen field of study. The Graduate College and the student’s department determine placement in this classification. A provisional student must complete nine credit hours of graduate-level course work selected by the department and listed on the Letter of Admission. The student must complete this course work within one calendar year of admission, with grades of B or higher, (B- grades are unacceptable) before taking additional course work. Failure to complete the required course work in the specified period or a grade less than B (3.00) will automatically cancel the student’s admission.

When the Graduate College receives the grades covering the required course work, the student will be given Graduate Standing status. A student may only be admitted as a Graduate Provisional student once.

Conditional Admission

A Conditional Admission status may be granted when the applicant must submit additional material before finalizing admission, i.e., a final transcript of course work in progress while applying for admission. Graduate Standing or Graduate Provisional students may also be classified as Conditional Admission. The Letter of Admission will specify which material must be submitted and the date the Graduate College must receive it. Failure to meet the condition(s) will automatically cancel the student’s admission.

Non-Degree Student

The Non-Degree Student status is assigned to individuals with baccalaureate degrees who wish to take graduate courses but not pursue an advanced degree. Registration for classes as a Non-Degree Student is processed through the Graduate College. Generally, Non-Degree Students may enroll in up to 12 credit hours per semester.

Department faculty are responsible for determining the adequacy of preparation of Non-Degree Students before allowing them to take upper-division or graduate courses which are open to Non-Degree Graduate Students. The student should check with the department about graduate courses accessible to Non-Degree Students. It is the student’s responsibility to provide proof of adequate preparation.

A Non-Degree Graduate Student wishing to seek a degree must apply for admission to the Graduate College and pay an application processing fee. Non-Degree Graduate Students may transfer up to fifteen UNLV credits with grades of B or higher into a degree program. Courses taken as a Non-Degree Graduate Student count toward the degree program at the discretion of the graduate coordinator, and/or department chair, and Graduate Dean.
Undergraduates Taking Graduate-Level Courses

Undergraduates with a minimum 90 semester hours of credit and 3.00 or higher grade point average may enroll in graduate courses. Students in the Honors Program must have a minimum of 45 semester hours of credit and a 3.00 or higher grade point average. The Approval for an Undergraduate to Enroll in 700-level Course Work Form must be completed and necessary signatures obtained and approved by the Graduate College prior to registration. Students may enroll in up to six hours of graduate-level courses during one semester.

Reserving Courses for Graduate Credit. Upon approval, UNLV undergraduates may take 600/700-level course work and reserve the credits earned for possible use in an advanced degree program. Course work reserved for graduate credit may not be used to satisfy baccalaureate degree requirements.

Graduate Courses for Undergraduate Credit. Upon approval, UNLV undergraduates may take 600/700-level course work for use in an undergraduate degree program. Courses used in an undergraduate program may not be applied toward an advanced degree at a later date.

Immunization Requirement

Nevada state law requires all new University of Nevada, Las Vegas graduate students to submit proof of immunization before they may register for classes. New students are required to provide proof of immunity to remove a registration hold. The Graduate College sends immunization forms along with the admission notification. For further information, contact the Student Health Center at (702) 895-3370.

Nevada Residency

The Dean of the Graduate College determines the Nevada residency of graduate students according to Board of Regents regulations and the laws of the State of Nevada. Persons, such as Nevada certified school teachers and Armed Forces personnel stationed in Nevada, are normally accorded residency status. A full statement of the regulations is available online.

Registration Policies

The university outlines specific registration procedures in the Schedule of Classes, which is made available prior to each semester by the Registrar’s Office. Students must register for classes using the procedures outlined in the class schedule including enrolling by the dates and times specified for each semester or special session. Students paying fees after the date and time specified in the schedule may be charged a late fee. An administrative drop may result for nonpayment of fees. The registration or enrollment of a student ineligible to attend the university is subject to immediate cancellation. A full-time graduate student is one who is enrolled in nine or more semester credits or equivalent or six credits for graduate assistants.

Adding or Dropping Classes

Students may add or drop a course up to the close of the late registration period. After this date, and with approval, students may make changes only when the circumstance is sufficiently extraordinary to warrant an exception.

Dropping/Withdrawing From Classes

The terms drop and withdraw are used interchangeably. The academic policies and calendar dates for dropping and withdrawing are the same. Drop generally refers to dropping one or more courses during a given semester. Withdrawal generally refers to the act of dropping all courses during a given semester.

A student may drop or withdraw from full semester courses during the free drop period (first ten weeks of the fall or spring semester) without a grade. The instructor must provide a preliminary evaluation of
the student’s grade before the end of the free drop period. No drops or withdrawals will be permitted after the end of the free drop period as published in the current class schedule (see Grades and Examinations). Refer to the appropriate class schedule for drop dates for special modular courses, short courses, extended education and summer term courses. Students who stop attending class and fail to file an official drop request form with the Registrar will receive a grade of F.

Students who wish to withdraw from all classes must obtain a Withdrawal form from the Registrar’s Office, obtain all required signatures, and return the form to the Registrar’s Office. The withdrawal is official only after the Registrar’s Office accepts it.

A student who has officially dropped a class and who is no longer registered for credit or audit is ineligible for further attendance in that class.

Cancellation of Registration

The university reserves the right to cancel any registration in specific courses for which the student is ineligible. The registration of any student who is ineligible to attend the university is subject to immediate cancellation. The university also reserves the right to cancel the registration of an individual whose attendance, in the opinion of the appropriate administrative officials, would not be mutually beneficial to that person and to the institution.

Cancellation of Courses and Programs

The university reserves the right to cancel any registration in which the enrollment is insufficient to warrant offering the course and/or to eliminate, cancel, phase out or reduce in size courses and/or programs for financial, curricular or programmatic reasons.

Repeat Policy

Any course may be repeated, regardless of the grade received. Credit will be allowed only once for successful completion of the course, except for courses designated in the catalog as allowable repeats. A student may repeat any UNLV course once at UNLV and not have the original grade included in the computation of the grade point average. The repeat grade must be on the same grading option as the original grade. The original grade will remain on the student’s academic record with suitable notation. For courses repeated prior to February 1971, both the original grade and the repeat grade are included in the grade point average. Students are responsible for providing the Registrar’s Office with written notification when a repeat course is completed. Computer-printed grade reports may not initially compensate for repeated courses. Grade point averages, credits attempted, and credits earned will be manually adjusted.

When a course is repeated more than once, only the original grade is omitted in computing the grade point average. The fact that UNLV has granted a degree to a student shall not preclude the student’s right to repeat a course for the purpose of improving a grade. However, class standing will not be affected by the results. A student receiving a final grade of ‘F’ in a course can obtain credit by pre-registering for the course, repeating the class work, and receiving a passing grade.

A failed course cannot be challenged by examination. A failed course does not have to be repeated unless the course is a specific college or department requirement. A student may be allowed to repeat any course once and not have the original grade computed in the graduation GPA. If a course is repeated more than once, only the original grade is omitted in computing the graduation GPA.

Unit of Credit

The unit of credit, or semester hour, is generally defined as one 50-minute lecture a week for a semester. Two or three laboratory hours per week, depending on the amount of outside preparation required, usually carries the same credit as one lecture hour.

Course Numbers

Graduate-level courses are numbered 500-799. Undergraduate-level courses are numbered 100-499.
Symbols

Numbers separated by a hyphen indicate courses which must be taken in sequence. The first semester is prerequisite for the second, for example, 701-702. Numbers separated by a comma indicate courses which may be taken one without the other, for example (701, 702). Various areas of the same course may be taken for credit. They are indicated by letters, for example A., B., etc.

Grading System

The following symbols are used in reporting and recording student grades:

- A: Superior
- B: Above Average
- C: Average
- D: Below Average
- F: Failing
- AD: Audit
- I: Incomplete
- S: Satisfactory
- X: Hold Grade

Note: Faculty members have the option of using plus (+) and minus (-) for grades of A, B, C, and D. Exception: A+ grades are not given.

I or Incomplete Grade

The following regulations apply to the ‘I’ or Incomplete grade:

1. The ‘I’ grade is used for content/lecture type courses designed to be completed within one semester and where the student has failed to complete all of the requirements. The instructor is responsible for determining if the reason for non-completion is satisfactory.
2. An ‘I’ is given only when a minor part of the course work remains incomplete and the major portion has been completed at a level which is clearly passing.
3. Graduate students receiving an ‘I’ grade in 500, 600- or 700-level courses have one calendar year to complete all course requirements and remove the ‘I’ grade; however, the instructor may require that it be made up in less time. If course requirements are not completed within one year, the Registrar’s Office will automatically record a grade of ‘F’. Students must make up an Incomplete in a 400-level or lower course in one semester.

S or F (Satisfactory or Failing) Grades

The Satisfactory (S) or Failing (F) mark is used upon completion of the thesis, dissertation, professional paper or for noncredit or satisfactory/fail courses. Grade-point values are not assigned for S. Many graduate and professional schools may not accept satisfactory/fail credits, or accept them only if accompanied by written evaluations of the work accomplished in such courses that bear upon the field of specialization. Additional evidence such as GRE or other advanced test results may also be required. UNLV does not accept graduate courses graded satisfactory/fail for use in a degree program except thesis, dissertation, or professional paper credits.

X (Hold) Grade

The X grade is restricted to 500-, 600- or 700-level research or clinical practicum courses where the course requirements may extend beyond one semester.

Grade Changes
A reported grade may be changed because of a clerical error made by the instructor or Registrar. Grade changes require the approval of the Graduate College Dean. Under present university regulations, the Registrar cannot change a grade once six months have passed following issuance of the official student grade report.

**Transcripts of Credit**

Official transcripts bear the University Seal, the Registrar’s signature, and reflect all academic work attempted at UNLV. Upon written request, the Office of the Registrar will issue official UNLV transcripts. Requests should be made at least one week before the date the transcripts are needed. The Registrar will not issue transcripts for any student having a delinquent indebtedness to the university. In addition, transcripts of work from other institutions will not be issued. Work in progress does not appear on the transcript until the semester or registration period officially ends. Transcripts are not prepared during final examination, grade recording, and registration periods.

**Tuition & Fees**

*Fees: All fees assessed by the university are subject to change by the Board of Regents. Every effort is made to keep fees low as possible while rendering the desired level of service. Nonresident fees are calculated to cover a major part of the direct cost of instruction.*

**Graduate Tuition and Fees***

*The fees listed below are applicable to Fall 2011 and Spring 2012.

UNLV Graduate College Tuition and Fees

**Boyd School of Law**

Tuition and Fees

**School of Dental Medicine**

Tuition and Fees

**Nevada Residency for Tuition Purposes**

**Residency Decisions**

The Board of Regents establishes Nevada residency for tuition purposes regulations. For admitted degree-seeking graduate students, residency status is determined at the time of admission to a degree-seeking program and is indicated in the official Letter of Admission from the Graduate College. Non-degree-seeking graduate students will generally be classified as out-of-state until and unless Nevada residency is determined via the residency application process. If the residency status is not “Nevada,” out-of-state tuition will be assessed. Residency decisions are made during the application process and will be posted on the admission acceptance letter.

**Qualifying for Nevada Residency**

The following categories qualify for Nevada resident status:

1. A member of the Armed Forces of the United States
2. Full-time licensed personnel employed by a public school district in Nevada
3. A teacher who is currently employed full time in Nevada
4. A professional or classified employee of the University and Community College System of Nevada
5. Company relocation (also applies to spouse and children)
6. Family relocation to the state
7. Millennium scholarship recipients
8. A student who has lived in the state for a period of 12 months

Applying for Nevada Residency

To apply for residency, download and complete the Residency Application and include photocopies of supporting documents. Mail or fax documentation to the Office of Admissions by the application deadline listed in the Academic Calendar and Registration Guide. Residency review for fall applications begins June 1; spring review begins Nov. 1.

Good Neighbor Regulations for Reduced Nonresident Tuition

Students who claim residence for at least 12 months in a qualifying Arizona or California county, or graduates from a high school or community college in a qualifying Arizona or California county may be eligible to attend the university at a reduced tuition cost. Those claiming residency for 12 months must have maintained legal bona fide residence for at least 12 consecutive months prior to the first day of the semester in which enrollment is sought.

Applications are available online or in the Graduate College. Requests for Good Neighbor status must be filed by the close of late registration for the semester in which the student has applied for admission. Any student who enrolls under this policy shall not be eligible for reclassification as a resident student unless the student has subsequently enrolled as a non-Good Neighbor nonresident for the period of one year, or did not enroll in an Nevada System of Higher Education institution for at least 12 months immediately prior to the date of application for reclassification to resident student status.

Approved Good Neighbor Counties:

Arizona
Mohave
California

Special Fees and Charges

1. An application fee of $60 (domestic) is charged to any person applying for admission. It is not refundable or applicable to any other fee. International applicants must pay an additional $95 application fee in addition to ordering a foreign credential evaluation if necessary.

2. Special charges may be made according to current costs for the following:
   a. Courses requiring equipment, facilities or materials not available on the campus, i.e., golf and certain field courses.
   b. Courses requiring use of high technology equipment, e.g., computer courses or health profession courses.
   c. Private instruction in music and similar arts
   d. Noncredit courses, conferences, workshops, postgraduate professional seminars and similar educational offerings.
   e. Courses requiring field trips or travel.
f. Personal expenses incurred by students in connection with field trips.
g. Lab and computer usage fees.

3. The following fees are either assessed or identified at registration.
   a. A late registration fee of $25 per day to a maximum of $250 is assessed to students who do not complete registration by the date designated. Summer Term students are assessed a late registration fee of $25 per day until the end of the late registration period for that Summer Session. In case the time designated for registration is not adequate, the Registrar may defer the assessment of this fee for one day.
   b. Returned Check Fee. Personal checks are accepted in payment of fees owed to the university, although no counter checks or checks altered in any way are accepted. A collection fee of $25 is assessed for any check returned unpaid by a bank. The check must be made good within 10 days or it will be turned over to a collection agency, and the student will be liable for all collection costs and any other related costs. If a personal check is returned from the bank, the university reserves the right to place the student on a cash basis only and withdrawal procedures may be initiated at the option of the university. A stop payment placed on a check does not constitute withdrawal from courses. Official withdrawal must be processed as returned checks and are subject to the same fees and collection cost.
   c. A graduation and commencement fee of $75 will be billed to the student’s account after the application for graduation is completed through MyUNLV. If a student fails to meet graduation requirements after a diploma has been ordered, $2.50 of the fee is forfeited. A graduation application is good for two consecutive semesters. If a student still has not graduated after the two semesters have concluded then the student will need to submit a new application along with another $50 fee.
   d. Late application for graduation, $20.

Student Health Fee
The Student Health program fees for Fall, Spring, and Summer semester classes are not to be confused with the voluntary Student Health Insurance plan. Program fees support various services offered by the Student Wellness Cluster.

The Student Health program facilitates on-campus educational experiences and leadership opportunities for all UNLV students; is responsible for public health protection of the UNLV community; provides access to health care and provisions or coordination of health needs for students; provides student counseling and psychological services; and includes the Jean Nidetch Women’s Center.

Group Health and Accident Insurance Fee
The Student Health Insurance plan is available to students formally admitted and currently enrolled taking six or more undergraduate credits or graduate students taking three or more credit hours. This plan is not to be confused with the student health program fee that all registered students pay for fall, spring, and summer sessions.

The Student Health Insurance provides services beyond those available through the Student Health Center for eligible on and off campus medical services. You may sign up for the Student Health
Insurance by picking up an enrollment packet at the Student Health Center or Bursar’s Office prior to the beginning of Fall, Spring, and Summer sessions or by accessing the web.

**Grants-in-Aid**
Each student is expected to pay all assessed fees on registration day unless a grant-in-aid is secured prior to registration day. Students are responsible to pay their portion on time. Late fees and/or withdrawal may be initiated for a student’s portion and/or reported to a credit bureau. Legal proceedings may be initiated for any default accounts receivable.

**Delinquent Accounts**
A student or former student having a delinquent account receivable or an overdue student loan of any amount with any division of the Nevada System of Higher Education shall not be permitted to register, receive any type of transcript of records, grades, diploma or certificate or obtain services from any division. The university reserves the right to refer any delinquent account to a collection agency and/or report to a credit bureau. Legal proceedings may be initiated for any delinquent account.

**Deferred Payment Option**
Deferred payment is available to students who are registered for seven credits or more and are not receiving any sort of financial aid, grant-in-aid, etc. There is a $20.00 service charge for all deferred fee payment plans. The $20.00 service charge plus 50 percent of the per credit fee, nonresident tuition (if applicable), and 100 percent of special fees are due by the first installment date. Second installment is due by Friday of the fourth week of instruction. Failure to pay the second half of the deferred payment on schedule will constitute withdrawal from the university. The tuition will still be owed, but the student will not receive credit for the courses. Any delinquent accounts may be reported to a credit bureau. All delinquent accounts not paid as required will be sent to a collection agency. The student is responsible for all collection costs, attorney fees, etc. All students must pay their tuition in full at registration or be on an approved deferred payment to be considered enrolled for the semester. All unapproved accounts will be disenrolled. No exceptions. The university reserves the right to deny deferred payment to any student who does not pay tuition and fees as scheduled, including late fees.

**Refund of Fees**
Students who withdraw from the university receive a refund of fees according to the schedule below, which is subject to change by the Board of Regents. All requests for exception to the refund policy for extraordinary circumstances must be made to Student Enrollment Services or the Fee Appeal Committee. An appeal form is available at Student Enrollment Services, Cashier’s Office or the Bursar’s Office website.

1. For all UNLV students, including auditors, for net credit load reductions and withdrawals from the university, the refund policy is as follows:
   A. **WITHIN THE FIRST WEEK OF INSTRUCTION.**
      1. 100 percent credit of all fees.
   B. **AFTER THE FIRST WEEK OF THE INSTRUCTIONAL PERIOD OF A REGULAR TERM.**
      1. 50 percent credit for total withdrawals from all courses until the end of the sixth week. No credit for total withdrawals after the end of the sixth week.
      2. 0 percent credit for partial withdrawals.

2. For all UNLV students, including auditors, for net credit load reductions and withdrawals from the university during the Summer Term, the refund policy is as follows:
   A. Courses dropped prior to the first day of the instructional period will receive a 100 percent credit.
   B. Courses dropped within the first 20 percent of the course period, as defined by Student Enrollment
Services, will receive a 50 percent credit.

C. There will be no credit for courses dropped after 20 percent of the course period has passed.

3. No credit shall be made for health and accident insurance premiums.

4. Modular courses follow different refund policies than stated above. Inquire at Student Enrollment Services for details regarding a particular modular course’s refund policy.

5. Upon written approval of the Vice President for Student Life, a full refund of all registration fees and tuition shall be given upon official withdrawal at any time during the first eight weeks of the semester in the following circumstances:
   A. Induction of the student into the U.S. Armed Forces;
   B. Death of a parent, spouse, child or legal guardian of the student; or
   C. Death of a student.
   D. No refund is made if withdrawal is after eight weeks, regardless of the circumstances. All refunds are made by check.

6. In most cases, federal regulations require that refunds for students receiving financial aid must be refunded back to the financial aid program rather than the student. For information about exemptions to this policy, please contact Student Financial Services. Dropping below full time for students on financial aid may invalidate eligibility for financial aid. Students may owe UNLV for financial aid refunds.

Room and Board Refund

Students withdrawing from the residence hall will receive refunds according to the terms and conditions of the residence and dining hall contract.

Financial Assistance

The University of Nevada, Las Vegas subscribes to the following statement that has been adopted by the Council of Graduate Schools in the United States and by most of the leading graduate schools in North America:

Acceptance of an offer of a graduate scholarship, fellowship, traineeship, or graduate assistantship for the next academic year by an actual or prospective graduate student completes an agreement which both student and the graduate school expect to honor. In those instances in which the student indicates acceptance prior to April 15 and subsequently desires to change plans, the student may submit in writing a resignation of the appointment at any time through April 15 in order to accept another scholarship, fellowship, traineeship, or graduate assistantship. However, an acceptance given or left in force after April 15 commits the student not to accept another appointment without first obtaining formal release for that purpose. It is further agreed by the institutions and organizations subscribing to the above resolution that a copy of this resolution should accompany every scholarship, fellowship, traineeship, and assistantship offer sent to a first-year graduate student before April 15.

Student Financial Services

The University of Nevada, Las Vegas provides a wide variety of assistance to finance higher education expenses. Grants, scholarships, part-time employment, and educational loans are available to help students with educational costs while attending UNLV. Students are encouraged to explore all possible resources. Financial Aid Administrators are available to discuss the variety of resources available and to assist graduate students in the application process. For further information, contact Graduate Student Financial Services at (702) 895-5569 and UNLV Student Financial Aid & Scholarships, located in the Student Services Complex, at (702) 895-3424. The Graduate Student Financial Services office is
located in the Graduate College on the 3rd floor of
the Flora Dungan Humanities Building.

Federal Loan Programs

Federal Perkins Loans

A Federal Perkins loan is a low-interest (5 percent) loan available to graduate students that is made through the university. Actual award amounts depend on federal and institutional funding levels. Preference is given to those applicants who are attending at least half time and have the greatest financial need. The total amount awarded is determined by financial need.

Application must be made with the FAFSA, which must be mailed to the federal processing center by February 1. Priority is given to those with the greatest need whose federal financial aid information is received by UNLV before the priority filing date.

Federal Direct Stafford Loans

Direct Stafford loans are low interest loans to assist you in paying for your college education. The interest rate is variable and set annually, not to exceed 8.25 percent. You may call Student Financial Services or contact the Federal Aid Information number at 1-800-433-3243 for the current interest rate. Your loans may assist you in meeting your tuition and or living expenses. You do not have to start repaying them until you drop below half-time enrollment, withdraw completely from school, or graduate.

The Federal Unsubsidized Loan is available to students regardless of financial need. You will be charged interest from the time the loan is disbursed until it is paid in full.

Graduate Assistantships

A number of state-supported and extramurally funded graduate assistantships are available. The most important regulations governing these positions are:

1. Applications must be sent to the department which you are seeking employment no later

than March 1 proceeding the fall semester in which an assistantship is sought. Applications may be submitted after this date in case of unexpected openings occurring for the fall semester. In rare cases where an assistantship is available for the spring semester, the application deadline is November 15th.

2. The application is available on the Graduate College website.

3. An assistantship is normally offered for a full academic year. If a student seeks renewal of an assistantship for the next year, a new application form must be submitted online.

4. Currently, a graduate assistantship carries with it a stipend paid monthly for the academic year. This stipend may vary for extramurally funded assistantships. Tuition waivers are also included with the assistantship. These waivers are approved only for work directly related to the student’s degree program (courses numbered 500 and approved for graduate credit and 700-level courses). This waiver covers a significant portion of the per credit hour fee. The state-funded tuition waiver does not over differential fees charged for some courses. The tuition waiver covers the full amount of out-of-state tuition. The out-of-state tuition waiver does not apply to students who are enrolled in self-funded programs. Tuition waiver amounts may vary for extramurally funded assistantships.

5. Graduate assistantships are not generally available during Summer Term. However, tuition waivers are available for Summer Term before and after a contract year has been completed. Tuition waivers are not available for undergraduate or audited courses. The above policies may differ for extramurally funded assistantships. To take advantage of the summer tuition waiver, the Graduate College must be informed of your enrollment prior to the start of summer session.
6. Graduate assistants must have graduate standing status at the time they begin their assistantships.

7. New International GAs are required to successfully pass the Test of Spoken English (TSE) prior to the start of the semester. Students who do not pass the TSE will be required to enroll in a 2 credit oral presentation skills course their first semester as a GA. Students whose graduate assistantship includes instructional duties (lecture, discussion groups, laboratory supervision, tutoring) must receive a successful grade on the TSE prior to assuming these instructional duties.

8. Graduate assistants must carry a minimum of six semester hours of graduate credit per semester. To carry more than twelve semester hours of credit, the department chair, academic dean, and the Graduate Dean must approve an Overload Petition.

9. Graduate assistants are expected to spend an average of 20 hours per week on departmental duties in either instruction and/or research.

10. Graduate assistants may not accept employment on or off campus without written permission from the faculty advisor, department chair, and Graduate College Dean. Graduate assistants are prohibited from being employed for more than 10 hours per week beyond their assistantship.

11. Graduate assistants are expected to report in the same time-frame as faculty, i.e., during academic semesters and not during break or vacation times. Graduate Assistants must report one week prior to commencement of classes both fall and spring semester.

12. New graduate assistants are expected, as part of their contract obligation, to attend the New Student Orientation Session and a contract signing session that are offered at the beginning of each semester.

13. Graduate assistantships will be terminated if the student does not satisfactorily perform assigned duties. Assistantships will also be terminated if a student does not make satisfactory progress toward the degree. Unsatisfactory progress includes, but is not limited to: filing a degree program late; receiving a grade of less than B; failing to remove an Incomplete grade after one calendar year; and failing comprehensive or qualifying examinations as required by the degree program.

14. Offers of assistantships, whether state-supported or extramurally funded, are valid only if they come from the Graduate College Dean.

Graduate Scholarships and Fellowships

For New Students: McNair Post-Baccalaureate Scholarships

McNair Post-Baccalaureate Scholarships, administered by the Graduate College, are awarded in open competition to first-year graduate students who participated in a McNair Scholars program at UNLV or at another institution as an undergraduate.

To be considered, applicants must:

- Submit an application in AY with all required supporting documents by the deadline listed on the website.
- Have an undergraduate GPA of 3.0 and graduate standing status at the time the scholarship begins.
- Enroll in a minimum of six or more graduate credits in each semester of the scholarship year.
For Current Students: The following fellowships and scholarships are only available to graduate students already admitted to the Graduate College

President’s UNLV Foundation Graduate Research Fellowships

The President’s Graduate Fellowships are provided through funding from the UNLV Foundation as directed by UNLV’s president for the research support of doctoral students. Up to three awards are given annually, each offering a fellowship package including a stipend, tuition (up to 12 credits), fees, and health benefit totaling $25,000.

Nominees must:

- Submit an application in AY with all required supporting documents by the deadline listed on the website.
- Be doctoral students working primarily on the dissertation.
- Have a minimum graduate GPA of 3.5
- Enroll in a minimum of 6 graduate credits in each semester (Fall and Spring) of the fellowship year.
- Submit a letter of recommendation/nomination from the department chair or graduate coordinator that has nominated the student.

Nominations must be submitted through department chairs. (Only one letter of nomination may be submitted from each department.)

Barrick Graduate Fellowships

Barrick Graduate Fellowships were established by an endowment from philanthropist Marjorie Barrick. They are given to outstanding doctoral students who have demonstrated excellent scholarship during their graduate study at UNLV. These fellowship awards provide a $14,000.00 stipend, full tuition and fees paid up to 9 credits per semester, full health insurance benefits, and a waiver of out-of-state tuition, if applicable. Applicants must:

Applicants must:

- Submit an application in AY with all required supporting documents by the deadline listed on the website.
- Be a doctoral-level student.
- Have completed at least 24 credits of doctoral study (at the time of application).
- Have a minimum graduate GPA of 3.5.
- Enroll in a minimum of 6 graduate credits in each semester of the fellowship year in order to devote maximum effort to doctoral study.
- Criteria for selection will also include demonstrated excellence in research.

Scholarships

Association Scholarships

Alumni Association Scholarships are awarded to outstanding master’s students who received their undergraduate degrees from UNLV. Awards for theses provide a $1,500.00 scholarship for the academic year.

Applicants must:

- Be a master's-level or specialist student.
- Have completed at least 12 credits of graduate study at UNLV (by the end of the current spring semester).
- Have minimum UNLV undergraduate and graduate GPAs of 3.5.
- Enroll in six or more graduate credits in each semester of the scholarship year.
- Hold an undergraduate degree from UNLV.

James F. Adams/GPSA Scholarships

The UNLV Graduate & Professional Student Association established these scholarships in honor
of Dr. James F. Adams, former dean of the Graduate College (1980-85), to recognize academic achievement of master’s-level students. Six awards are given, each offering a $1,000 scholarship.

Applicants must:

- Submit an application in AY with all required supporting documents by the deadline listed on the website.
- Be a master's-level or specialist student.
- Have completed at least 12 credits of graduate study at UNLV (by the end of the current spring semester).
- Have a minimum undergraduate and graduate GPAs of 3.5.
- Enroll in six or more credits in each semester of the scholarship year.
- Hold an undergraduate degree from UNLV.

**Patricia Sastaunak Scholarships**

These awards are granted on the basis of documented financial need as evidenced by a student’s FAFSA application and review by the UNLV Office of Financial Aid.

Applicants must:

- Submit an application in AY with all required supporting documents by the deadline listed on the website.
- Have a FAFSA on record with Financial Aid for the upcoming academic year.
- Have a minimum 3.5 GPA.
- Have completed a minimum of 6 credits at the time of application.
- Enroll in a minimum of 6 or more graduate credits in each semester of the scholarship year.

**Sterling Scholarships**

These prestigious Alumni Association awards are designated for UNLV graduates who are now enrolled in doctoral programs.

Applicants must: Submit an application in AY with all required supporting documents by the deadline listed on the website.

- Student must be formally admitted to UNLV.
- Enroll in a minimum of 6 or more graduate credits in each semester of the scholarship year. Be pursuing a doctoral degree and must have completed the first year of their degree program.
- Have a 3.5 cumulative grade point average or higher.
- Have graduated with either a bachelor’s or master’s degree from UNLV.

**Summer Session Grants**

Summer Session Grants are designed to enable summer study for doctoral students, however excellent master's and specialist's students may be considered. Ten awards are given, each offering a grant during the summer.

Applicants must:

- Submit an application in AY with all required supporting documents by the deadline listed on the website.
- Have completed at least 12 credits of graduate study at UNLV (at the time of application).
- Have a minimum graduate GPA of 3.0.
- Enroll in a minimum of six credits in any one or combination of summer sessions.

Criteria for selection will include summer plans for conducting dissertation or thesis research.

**UNLV Graduate Access Childcare Scholarship**

UNLV Access Childcare Scholarship offers competitive, need-based scholarship funding to admitted/enrolled graduate students with young dependents who have already submitted their FAFSA (Free Application for Federal Student Aid) to Student Financial Services and have documented financial need. This scholarship is available on a highly
competitive basis to graduate students with child dependents who pay for professional daycare or childcare in order to attend graduate school and pursue their graduate research.

- Submit an application in AY with all required supporting documents by the deadline listed on the website.
- Submit a FAFSA application for the current semester.
- Submit student Financial Services data documenting financial need based on your FAFSA.
- Have Graduate Standing.
- Be enrolled in a minimum of 6 credits as long as they are receiving the scholarship.
- Have a current graduate GPA of at least 3.3 or higher.
- Submit documentation that provides a Tax ID # for the childcare provider(s) and receipts showing the cost of childcare during academic semesters.
- Upload your completed Childcare Information sheet (DOCX) with your application found on the website.

Those who have all the proper documentation submitted by the deadline will be considered for a Childcare Scholarship; available childcare scholarship monies will then be distributed competitively based on financial need, childcare expenses, and graduate student GPA.

Awards will be distributed by Student Financial Services. To find out if you have been chosen as a Graduate Access Childcare Scholarship winner, please watch your Rebel Aid account and MyUNLV to see your online financial aid profile and relevant awards. Please note that no award distribution information will be available via phone from the Graduate College.

Updates on fellowship and scholarship information are available on the Graduate College website.

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**Employment**

**On-Campus Employment**

Several campus departments and offices employ students in a variety of positions. These jobs can be viewed on the Career Services website, or on the Financial Aid and Scholarships website. On-campus employment listings are available to graduate students enrolled in at least five credits at UNLV. Financial need is not a criterion for on-campus employment.

**Job Location and Development**

Employment opportunities are offered to UNLV students by community businesses and individuals. These jobs can be viewed on the Financial Aid and Scholarships website or the Career Services website.

In addition to job listings, the JLD Program sponsors biannual Job Fairs where employers from businesses, government agencies, and hospitals, to name a few, come to campus to discuss part-time employment opportunities.

**Federal Work Study**

The Federal Work Study Program is a federally funded financial aid program awarded as part of the financial aid package. This program enables students to earn a portion of their college expenses through employment with a UNLV department or office or off campus with contracted nonprofit agencies. Community service is a major goal of this program. If available, students may choose jobs related to their academic majors and career objectives. Work hours may also be arranged according to class schedules.

To qualify for a Federal Work Study job, applicants must meet the eligibility requirements of the federal financial aid programs. One requirement, financial need, is determined by Student Financial Services and based on income and asset information entered on the Free Application for Federal Student Aid (FAFSA) application.
Funds are limited. Therefore, applicants must mail the completed FAFSA application to the federal processing center by February 1. Questions concerning the eligibility requirements or application process may be directed to Student Financial Services, second floor, Student Services Complex.

**Academic Policies**

The policies and regulations of the graduate program or department, the Graduate College, the University of Nevada, Las Vegas, and the Board of Regents are subject to review and change. The Graduate College Policy Manual and the UNLV Student Conduct Code are available by request in the Graduate College and on our website.

It is the responsibility of students to know and observe all regulations and procedures relating to their graduate program, the Graduate College, and UNLV. In no case will any regulations be waived or an exception granted based on a plea of ignorance of, or contention that the graduate program, Graduate College, or university did not inform a student of the regulations or procedures. Questions regarding graduate-level study regulations and their interpretation should be addressed to the Graduate College.

**Academic Integrity**

All members of the UNLV community are dedicated to learning. The university and the Graduate College expect nothing less than a high level of scholarly integrity and academic honesty on the part of students, faculty, staff, and administrators.

Quality academic work requires honesty. The UNLV faculty and administration regard any attempt by a student to present as his or her own work that which he or she has not solely produced as a serious offense. Students are considered to have cheated, for example, if they copy the work of another; use unauthorized notes or other aids during an examination; turn in a paper or an assignment written, in whole or in part, by someone else as their own. Students are guilty of plagiarism, intentional or not, if they copy material from books, magazines, or other sources without identifying and acknowledging the sources, or if they paraphrase ideas from such sources without acknowledging them. Students guilty of, or assisting others in, either cheating or plagiarism on an assignment, quiz, examination, or other scholarly endeavor may receive a grade of ‘F’ for the course involved, and may be suspended or removed from the program. Additionally, UNLV has established policies regarding research misconduct among students, faculty and staff. Research misconduct pertains to commission of any of the following acts: falsification of data, improper assignment of authorship, claiming another person’s work as one’s own, unprofessional manipulation of experiments or of research procedures, or misappropriation of research funds. (Adapted from the 1994-95 Graduate Catalog Northern Illinois University).

If a student is deemed by a faculty member to be guilty of academic dishonesty, where applicable, the student may be assigned a failing grade for the corresponding segment of the course or for the entire course. The faculty member or administrator also may initiate disciplinary review under procedures described in the Nevada System of Higher Education document *Rules and Disciplinary Procedures for Members of the University Community*.

Disciplinary sanction options described therein include warning, probation, suspension, and expulsion or revocation of a degree if a degree has been previously awarded. In all cases the faculty member is responsible for recording the circumstances, notifying the student in writing, and for giving the student an opportunity to reply. Appeals go to the chair of the student’s academic department, academic dean and Graduate Dean.

If a graduate student fails to maintain the standards of academic or professional integrity expected as defined in writing by their discipline or program, the student’s admission status in his or her program will
be terminated. If any member of the university community is deemed guilty of academic dishonesty, action may be brought under the Rules and Disciplinary Procedures for Members of the University Community. In addition, students who violate these standards will be subject to conduct sanctions, in accordance with the UNLV Student Conduct Code and Policies, in order to promote their own personal development, to protect the university community, and to maintain order and stability on campus.

Credit Requirements

Residence Credit Requirement

Resident credit means any graduate course that is satisfactorily completed at UNLV, except credits earned by special examination or correspondence courses. Correspondence study, credit by special examination, or enrollment in another institution within the Nevada System of Higher Education does not constitute an interruption of resident credit.

A minimum of 50 percent of the total credits required to complete the master’s, specialist, or doctoral degree not including transferred credits, the thesis, dissertation, or professional paper must be earned at UNLV after admission to a graduate degree program.

Graduate Credit

All courses numbered 500-799 are considered graduate level. To determine which graduate-level courses will apply to a specific degree, the student must have them approved on a degree program. Prior to having a degree program approved, there is no guarantee that a course will apply toward the degree. To be considered a graduate-level course, the instructor must be a member of the Graduate Faculty. The Graduate College requires a minimum of 50 percent of the degree program semester hours are 700-level courses excluding thesis, dissertation, or professional/scholarly paper. Individual departments may require more than the Graduate College minimum.

Graduate-level courses may not be challenged. Graduate courses which are graded on a satisfactory/fail basis, may not be used in a graduate degree program except for thesis, dissertation, or professional/scholarly paper credits.

Credit Toward Degree

Courses used to fulfill requirements for one degree may not be used toward another degree. No more than three credits of a student’s degree program may consist of UNLV workshop, institute, and conference credits, and the student must have received a grade for these credits.

A course in which a grade of less than C was received will not be considered for use toward the degree. Departments may impose a higher grade standard. Experimental, experiential (life and work experiences), correspondence, and audited courses may not be applied toward the degree. In addition, courses numbered in the 100-499 series cannot be used for graduate credit.

Credit may be used toward the graduate degree for courses taken while an undergraduate at UNLV only if the course was reserved for graduate credit. See the Admissions section for this information.

Transfer Credit Limitations: Prior to Admission and Enrollment

Not more than one-third of a student’s degree program (not including the thesis, dissertation, or professional/scholarly paper) may be transferred from another university at the time admission is granted. Courses used to fulfill requirements for one degree may not be used to reduce credit hour requirements in another degree program. For UNLV Non-Degree graduate students, a maximum of 15 graduate credits taken at UNLV may be applied toward a graduate degree program.

Transfer Credit Limitations: After Admission and Enrollment

Once admitted to an advanced degree program, students must obtain prior written consent of the department and the Graduate Dean to take course
work elsewhere and use it in their degree program. Such work must be graduate level, graded, and must not be experimental, correspondence, or extended in nature.

The department chair, the graduate coordinator, the academic dean responsible for approving the student’s degree program, and the Graduate Dean must approve all credits taken prior to admission or transfer credit. To be considered for use:

1. The work must have been taken at an accredited institution;
2. The work must have been completed with a grade of B or higher (B- is not acceptable);
3. Official transcripts covering the work must be sent directly from the issuing institution to the Graduate College; and
4. The work must be posted to the student’s permanent academic record.
5. Work that is used to fulfill requirements for a previous degree may not be used toward another degree.

Transfer credit is approved only when evidence exists that the work is certifiably graduate level and has not been used in another degree program. The age of the transfer work under consideration, or the year taken, may also be a factor. The student is responsible for providing this evidence.

After admission, credits (workshops and correspondence courses will not be considered) taken at another institution may be applied toward the degree if prior permission is obtained. Contact the Graduate College for the request form, additional information and the conditions of transfer credits.

**Limitation on Credit Load**

The university considers a graduate student taking nine credits per semester as full-time (six credit hours if the student is a graduate assistant). Please note that the number of credits enrolled impacts financial aid. Contact the office of Financial Aid and Scholarships for further information.

Graduate students normally may not take more than 12 credit hours (10 if a graduate assistant) during the fall and spring terms. They may take no more than six credit hours in a single five-week Summer Term and earn no more than a total of 12 credits during the Summer Term (pre, post, and regular five-week sessions combined). Overload petitions are available on the Graduate College website. Petitions must be approved by the Graduate Dean prior to registration.

**Grade Point Average**

A candidate for an advanced degree must have an overall grade point average of 3.00 for all graduate program approved courses. The GPA, computed by the Graduate College, includes all completed graduate course work accepted at admission and all subsequently approved course work.

**Continuous Enrollment**

After admission to a graduate program, students must register for and complete a minimum of six hours of graduate degree program credits per rolling three semesters (including summer). Students working on a thesis or dissertation must register for three semester hours of credit each semester (excluding summer), until the document has been completed and has been given final approval. Students who have not registered for academic work within one calendar year will be separated from their program and must reapply for admission should they wish to continue. Exceptions to the above policy, as with a request for a leave of absence, are made only with the approval of the student’s advisor, graduate coordinator, department chair person, academic dean and the Graduate Dean. Any student using the services of the academic staff or university facilities must be registered for the period during which the services are rendered or the facilities are used. Students must be registered during the semester they intend to graduate and/or take final, comprehensive, comprehensive,
Six-Year and Eight-Year Policy

The Six-Year and Eight-Year Policy applies to all course work, including all approved transfer degree course work. In special circumstances, the student’s faculty advisory committee may recommend that the Graduate Dean extend these degree time limits. Each department may establish shorter periods than those previously discussed contingent upon the approval of the Graduate Dean and inclusion in the Academic Policies section of this catalog.

Students violating the six-year and eight-year policy and/or the continuous enrollment policy are no longer automatically eligible to complete their program under the requirements in place at the time of admission. This decision is left to the discretion of the department. Students are considered making satisfactory progress toward the degree as long as they are completing six hours of graduate degree program credits per rolling three semesters (including summer). Students not meeting this requirement will be separated from the Graduate College.

Master’s Degree Students: All master’s degree requirements must be completed within six years. Course work completed more than six calendar years before the term in which all degree requirements are met may not be used in the degree program.

Doctoral Degree Students: A student beginning a doctoral degree program and holding a master’s degree in an appropriate field of study must complete all doctoral degree program requirements within six years. A student beginning a doctoral degree program without a master’s degree must complete all requirements for the degree within eight years.

Probation and Separation

Departments are to review the academic performance of graduate students at the end of each semester and/or academic year. If a department determines that a student is not making satisfactory progress toward the degree, it may request the Graduate Dean separate the student from the college or place the student on probation. The department must provide the student with the specific requirements, including deadlines, which must be completed to be removed from probation. If the Graduate Dean approves the request, the student will be placed on probation. Failure to meet the conditions of the probation will result in separation from the Graduate College.

Failure to make satisfactory progress may include: failure to complete six graduate credits per rolling three semesters (including summer) toward the degree program; unsatisfactory grades (including Incompletes, grades below a B, or Withdrawals); failure to consult with the advisor when requested; failure to establish a graduate committee; failure to develop an official, approved degree program; failure to establish the groundwork for an acceptable thesis or dissertation; and failure of comprehensive and qualifying examinations. Students must prove that they are making satisfactory progress. Departments may establish their own benchmarks for progress, consistent with degree program requirements and standards in the field. Satisfactory academic progress also involves maintaining the standards of academic and professional integrity expected in a particular discipline or program. Failure to maintain these standards may result in termination of the student’s admission to a graduate degree program.

A UNLV graduate student who has been dismissed for academic reasons is not eligible for admission or
re-entry. The student must petition the Graduate College for academic reinstatement.

**Administrative Drops and Classroom Conduct**

Failure to attend a course or to submit required work will result in a grade of F. The student who neglects a course is solely responsible for dropping the course or withdrawing from the university. However, an administrative drop may be initiated at the discretion of the instructor, who will record the circumstances. The approval of the academic dean offering the course is required. Deadlines for an administrative drop are the same as for a drop initiated by the student and are based on the date received at the Registrar’s Office. The student will be notified by the final grade report.

Students have a responsibility to conduct themselves in class and in the libraries in ways that do not interfere with the right of other students to learn or of instructors to teach. Use of electronic devices such as pagers, cellular phones, or recording devices, or other potentially disruptive activities, is permitted only with prior explicit consent of the instructor. The instructor may rescind permission anytime during the course.

If a student does not comply with requirements or obstructs the functioning of the class, the instructor may initiate an administrative drop. The instructor must record the circumstances. The approval of the dean of the college offering the course is required. Before a decision, the dean will consult with the student and other parties as appropriate.

Serious cases of misconduct, as defined by the *Rules and Disciplinary Procedures for Members of the University Community*, will be referred to the appropriate administrative officer for action.

**Change of Address**

Any change of address should be changed by the student through his or her MyUNLV account. Any correspondence from the university mailed to the last address provided by the student to the Registrar and Graduate College will discharge all university responsibility for notification.

**Appeals and Procedures**

Appeals are to request reconsideration of a course grade, alleged unfair practice, and relief or waiver from a UNLV and/or Graduate College policy or requirement. Appeals must be filed with the Graduate College Office (FDH 3 09) in a timely manner. The Graduate College must receive grade appeals within 60 calendar days from the last day of the term/semester in question. The Registrar’s Office must receive notification to change a grade due to clerical error within 60 calendar days from the last day of the term/semester. Each appeal is reviewed individually and a decision will be based on the merits and documentation provided.

It is the student’s responsibility to provide a clear and concisely written statement of the appeal and to provide all relevant documentation to be reviewed. Written appeals must include:

1. *UNLV Graduate College Appeal Form* as a cover sheet
2. Written Statement of Appeal addressed to the appropriate UNLV administrator
3. Relevant documentation and support. For example, documents may include medical records, work verification, police reports, death certificates, airline receipts, letters from professors on university letterhead, transcripts, etc. If the issue is not resolved between the student and course instructor, a written appeal should first be directed to the Graduate Coordinator of the department in question. If the problem remains unresolved to the student’s satisfaction, appeals must be
directed in progressive order to the Department Graduate Coordinator, Department Chair, College Dean, then subsequently to the Graduate Dean. The Graduate Dean may act to resolve the problem or request the Graduate College Committee on Faculty and Student Issues to review the problem and make its recommendation to the Graduate Dean. The Graduate Dean will inform the student of the final decision.

Advisors and departments may have varying methods of processing appeals. Your department should be contacted for specific policies and procedures. The Graduate College Graduate Faculty and Student Issues Committee is the designated College Committee to hear certain graduate student and faculty appeals and is composed of graduate faculty a graduate student representative.

Waiver of Regulations

The Graduate Dean will consider a student’s written request for waiver of a regulation upon a written recommendation from the student’s department and committee chair. The regulation in question must be specified and the reason for the exception clearly stated. The Graduate Dean will notify both the student and the department of the decision.

Policies and Procedures on the Protection of Research Subjects

Human Subjects: Graduate students conducting research must adhere to UNLV policies and procedures regarding the use of human subjects. All research projects in which human subjects are involved must be reviewed and approved under the authority of the UNLV Institutional Review Board (IRB), which consists of two committees - Biomedical Sciences Committee and Social and Behavioral Sciences Committee. The IRB is responsible for the development and monitoring of university policy and procedures involving the use of human subjects in research.

The provision for the protection of human subjects in research applies to all studies in all locations, whether funded or unfunded, and whether conducted by faculty, students, or staff. It also applies to persons unaffiliated with UNLV, who wish to investigate subjects under the protection of the university. Students should contact the Office of Sponsored Programs to obtain appropriate forms and further information.

Animal Subjects: It is university policy that: 1) the proper care and management of laboratory animals is essential to the welfare of the animals, to the validity of research data, and to the health and safety of those caring for or using animals; and 2) the university will comply with federal and state regulations regarding animal welfare.

All animal protocols involving vertebrate animals (including farm animals and wild animals) conducted at, funded through or sponsored by UNLV must be submitted for prior Institutional Animal Care and Use Committee (IACUC) review and periodic review after approval in accordance with university policies and procedures that are required by federal law.

The provision for the protection of animal subjects in research applies to all studies in all locations, whether funded or unfunded, and whether conducted by faculty, students, or staff. It also applies to all studies in all locations, whether funded or unfunded, and whether conducted by faculty, students, or staff. It also applies to persons unaffiliated with UNLV, who wish to investigate subjects under the protection of the university. Students should contact the office of Sponsored Programs to obtain appropriate forms and further information.

UNLV Student Computer Use Policy

Public computer laboratories and mainframe computers are provided as a service to students. Use
is a privilege, not a right. Users should be good citizens; they must refrain from doing anything that annoys others or disrupts the educational experiences of their peers. Failure to comply with the regulations below may result in suspension under the NSHE Code, or civil or criminal action under the Nevada Revised Statutes, or federal law. It is a violation of UNLV policy to:

1. Copy any copyrighted software provided by UNLV. It is a criminal offense to copy any software protected by copyright, and UNLV will treat it as such.
2. Use licensed software in a manner inconsistent with the licensing arrangement. Information on licenses is available at the tutor stations or through NSHE Computing Services.
3. Copy, rename, alter, examine, or delete the files or programs of another person or UNLV without permission.
4. Use a computer to annoy others, including, but not limited to, sending offensive messages or knowingly causing a system to crash.
5. Create, disseminate or run a self-replicating program (virus), whether destructive in nature or not.
6. Use a computer for non-university work, such as for a private business or non-UNLV sanctioned club.
7. Tamper with switch settings or do anything that could damage terminals, computers, printers, or other equipment.
8. Collect, read, or destroy output other than your own work without the permission of the owner.
9. Use the computer account of another with or without permission unless it is designated group work.
10. Use software in the lab not owned by UNLV unless the student is the legally licensed owner.
11. Continue to use a computer account after withdrawing from the class for which it was obtained.
12. Access or attempt to access a host computer, either at UNLV or through a network, without the owner’s permission, and/or through use of log-in information belonging to another person.

Student Use of Hazardous Materials

Certain courses may require students to work with potentially hazardous materials in the lab, darkroom, or workshop. Instructors will provide instructions regarding the safe handling of all materials. Questions should be directed to the specific academic department or instructor.

Degree Progression Policies & Procedures

Students should be aware of the Graduate Study Timeline available on the Graduate College website: http://graduatecollege.unlv.edu/current/guidance/

Degree requirements are usually completed under the policies and regulations listed in the Graduate Catalog in effect at the time of admission. However, and with departmental and Graduate College approval, the Graduate Catalog in effect during the semester in which degree requirements are completed may be used.

All students seeking an advanced degree must adhere to the regulations discussed in this section. With Graduate College approval, departments may have additional specific degree requirements that students must meet to receive an advanced degree.

Forms

All students are responsible for submitting the proper forms to the Graduate College as he or she progresses
through their degree program. Failure to do so may cause a delay in the student’s graduation.

The Advisor

Students are assigned an advisor by their graduate program at the time of admission into the Graduate College. The advisor is typically selected by the department from among its Graduate Faculty; after which, if required by degree program, it is the responsibility of the student to personally select an advisor to serve as chair of his or her advisory committee. At any time after admission, a student may request a change of advisor and, upon departmental recommendation and Graduate College approval, the advisor will be changed.

The Advisory Committee

The advisory committee is responsible for guiding the student through the graduate program, assisting with the thesis or dissertation (if required), and administering the final examination. Not all graduate degree programs require the appointment of an advisory committee. Students should consult with their advisor to determine whether or not an advisory committee is necessary. All members of the committee should have expertise in the student’s area of concentration. Generally, four graduate faculty members comprise an advisory committee: three from the student’s department and one professor with full graduate faculty status from another department to serve as the Graduate College representative. One of the three graduate faculty members from the department serves as the student’s advisor and committee chair; this person must have full graduate faculty status. Occasionally, it is permissible for an additional graduate faculty member(s) to be placed on the committee. Master’s and doctoral students must submit the Appointment of Advisory Committee form to the Graduate College before establishing the degree program and before submitting their prospectus approval forms. The Graduate College must approve the Graduate College representative, and all advisory committee members on the Appointment of Advisory Committee form, before the student proceeds to work with their advisory committee, sit for exams, defend a prospectus or otherwise participate in any milestone event involving their advisory committee.

The Degree Program

Students, with their advisor and advisory committee, must prepare a proposed graduate degree program. This degree program, which outlines the courses the student will complete for the degree, should be thoughtfully prepared. The degree program of study must comply with the regulations of the graduate program or department, the Graduate College and the guidelines in the Graduate Catalog for the year in which the student was admitted. The degree program forms (Part A provided by the Graduate College, Part B is provided by the academic department) requires the approvals of the student, advisor, the graduate coordinator, the appropriate academic dean, and the Graduate Dean, and both parts of the form must be submitted at the same time, prior to applying for graduation.

Final Research/Creative Documents

The most important component of graduate education is the student’s culminating experience. This generally takes the form a thesis, a dissertation, a final scholarly research project, a professional paper, a course, an exam and sometimes an oral defense. The culminating experience demonstrates the student’s mastery of their research, scholarship, creative abilities, and/or written communication skills in the chosen discipline. The final document is intended to benefit the student, contribute to the academic discipline or profession, and often they are of significance to the broader society. Students required to complete and defend a final research or creative document must submit the Prospectus
Approval Form to the Graduate College along with a brief written statement describing the content of the document prior to beginning work on their thesis or dissertation. Students may not enroll in dissertation credits until they have submitted their signed Prospectus Approval form and their Advancement to Candidacy form to the Graduate College.

Final documents, including theses, dissertations, professional or scholarly papers, and projects must meet acceptable standards of the given profession. Theses and dissertations must also meet Graduate College standards according to The Guide to Preparing & Submitting a Thesis or Dissertation. The Graduate College and advisory committees expect students to give careful attention to the style and format of the final scholarly or creative documents.

Students should contact the department to determine which document and which forms are required to complete their degree program. Students must maintain continuous enrollment (a minimum of 6 graduate level credits in any three consecutive semesters including summer) while working on their degree and final document, and students be enrolled in a minimum of 3 graduate level credits in the semester in which they graduate, even if they have already completed all the required degree credits.

**Thesis and Dissertation**

Some departments require a thesis, or offer the option of a thesis, for the master’s degree. All academic doctoral programs require a dissertation. Students must submit the Prospectus Approval form to the Graduate College at the same time the degree program is submitted for master’s students and to advance to candidacy for doctoral students. The thesis or dissertation should demonstrate the student’s ability to select a specific problem or topic, to assemble pertinent and necessary data, to do original research, to organize ideas and data acceptably, and to prepare a written report in clear and effective English. The Guide to Preparing & Submitting a Thesis or Dissertation is available on the Graduate College website. Students must follow the instructions in the guide. Matters of form with respect to capitalization, abbreviation, quotations, footnotes and bibliography should conform to the discipline’s standards. Departments will advise the student on which style manual is appropriate.

The minimum number of thesis credits required for a master’s degree program is six. For the doctoral degree program, the minimum number of dissertation credits required is twelve. A grade is not reported for thesis or dissertation credits. When the final copy of the thesis/dissertation are submitted electronically to the Graduate College and approved by the Graduate Dean, the title of the thesis/dissertation is posted on the student’s transcript with the number of credits given. Unless approved for a leave of absence, a student must register for a minimum of three thesis/dissertation or non-thesis/dissertation credits each semester (summer excluded) until the thesis or dissertation is completed, submitted to the Graduate College, and the student graduates. However, students intending to complete, defend, submit a thesis or dissertation to the Graduate College, and/or graduate during the summer term, must be registered for a minimum of three credits. It is strongly suggested that no later than eight weeks prior to the last day of instruction in the term the student will graduate, a draft of the work should be submitted to the advisory committee. The committee will review the thesis or dissertation for any corrections and changes, which must be incorporated before the final examination (oral defense) and final typing. The completed, unbound work must be resubmitted to the committee at least one week prior to the final examination. The completed, unbound work must be resubmitted to the committee at least one week prior to the final examination. The Graduate College must approve all theses and dissertations for final electronic submission. It is recommended that an initial format check be performed the Graduate College by the eighth week of the semester the student intends to graduate. Upon approval, the thesis or dissertation must be submitted electronically to the Graduate College not later than two weeks prior to the end of instruction of the term the student intends to graduate. All members of the advisory committee must approve the thesis or dissertation for submission to the Graduate College. The Graduate Dean only can give permission for an extension of this deadline.

In rare circumstances a student may be permitted to complete the thesis or dissertation away from
campus. After considerable progress has been made in collecting data and outlining the work, the student may petition to complete the thesis or dissertation in absentia, waiving the registration requirement. If the petition is approved, the advisor and Graduate Dean along with the student will determine the requirements for completion of the work.

**Professional or Scholarly Papers or Projects**

Master’s students not pursuing a thesis option may be required to complete a professional/scholarly paper or project as part of the degree program. Students are encouraged to use The Guide to Preparing & Submitting a Thesis or Dissertation available in the Graduate College when preparing a professional paper. Professional/scholarly papers or projects are not, however, reviewed, retained, or approved by the Graduate College. Some graduate programs require students doing a professional paper to have a graduate committee and to defend their work; other departments incorporate final papers into culminating experience courses or have other requirements. Please check with your department for detailed guidelines.

**Graduate Program Examinations**

There are three major examinations which students may be required to pass in order to complete a graduate program. The following descriptions are general and may be used interchangeably by departments or programs. For the application of these terms and their use by a particular department or graduate program, refer to the appropriate section of this catalog.

**Qualifying Examinations**

Some departments may require doctoral students to take a qualifying examination as part of the admission screening process or for diagnostic purposes shortly after admission. The examination may be written, oral, or both.

**Comprehensive and Final Examinations**

Most graduate degree programs require students to successfully complete one or more comprehensive or final examinations. For master’s students, the comprehensive, or final, examination is generally conducted during the last semester or term of enrollment in which a student intends to graduate. For doctoral students, the comprehensive, or preliminary, examinations are generally taken after all course work, other than dissertation credits, has been completed and before advancing to candidacy. The examination is intended to test the student’s knowledge of the area of specialization and may be written, oral, or both at the discretion of the department. If the examination is written, members of the advisory committee may submit questions, all must read the questions in advance, and all must read and evaluate the student’s answers. If oral, all members of the advisory committee must be present and may question the student.

The comprehensive, final, or preliminary examination must be administered at least three weeks before the last day of instruction of any given semester or term. Students must be enrolled for at least one graduate-level credit during the semester or term the comprehensive or preliminary examination is taken. For comprehensive and final examination requirements, contact the department or refer to the appropriate section of this catalog. In the examination, the student must be able to demonstrate a comprehensive understanding of a broad field of study and a detailed understanding of one or more specialized fields of expertise. The advisory committee must unanimously pass the student. If the committee votes unanimously to fail the student or the vote is not unanimous to pass, the student, in consultation with his/her advisor, may request the committee to administer a second examination. The student must wait at least three months before taking the second examination. The advisory committee must provide formal documentation to the student clearly indicating its decision.

**Oral Defense**
Graduate students completing a thesis or dissertation are required to demonstrate their ability to select a specific problem or topic, to assemble pertinent and necessary data, to do original research, to organize ideas and data acceptably, and to prepare a written report in clear and effective English. This demonstration takes the form of an oral defense of the finished document. For some master’s and specialist students, completing a professional/scholarly paper or project an oral defense may be required. All members of the advisory committee must be present and may question the student.

The oral defense must be held at least three weeks before the last day of instruction in the term in which the student plans to complete the degree requirements. It may be conducted before that term only with the Graduate Dean’s permission. Students must be enrolled during the term the oral defense is conducted.

Satisfactory performance on a final examination will consist of a presentation and defense of the student’s original thesis or dissertation research. At a minimum, the defense consists of an oral presentation to university graduate faculty and a closed deliberation and vote by the advisory committee. The oral presentation will be open to UNLV Graduate Faculty, graduate students, relevant administrators, and invited guests. The invited guests must be approved by the advisory committee chair prior to the defense.

The oral presentation may be followed by general questions of clarification from attendees [other than the advisory committee members]. The advisory committee and chair may choose to include a session of more in-depth questioning open only to the advisory committee and the UNLV Graduate Faculty. An additional phase of questioning with only the advisory committee and candidate may also be included. The final phase of closed deliberation, and the vote to pass or fail the student, will only be open to the student’s appointed advisory committee.

The Graduate College must be notified not less than two weeks in advance of the examination. A public announcement regarding an oral defense must be made to the appropriate department’s graduate faculty a minimum of seven (7) days prior to the oral defense.

During the oral defense, the student must be able to demonstrate a comprehensive understanding of a broad field of study and a detailed understanding of a more limited field. The advisory committee must unanimously pass the student. If the committee votes unanimously to fail the student or the vote is not unanimous to pass, the student, in consultation with his/ her advisor, may request the committee to administer a second examination. The student must wait at least three months before taking the second examination. The department may require additional course work, substantial reworking of the thesis, dissertation, or professional/scholarly paper or project or whatever is believed necessary to prepare the student for the second examination. The Graduate College will not approve third examination requests.

Advancement to Candidacy

The Graduate College designates the advancement to candidacy status for doctoral students only. Doctoral students are advanced to candidacy upon successful completion of all course work, passing the comprehensive examination, and completing the dissertation prospectus. The date of advancement is recorded on the students’ official UNLV transcript.

Graduation Procedures

Application for Graduation

Students are responsible for applying for graduation by the semester deadline. Doing so triggers your graduate evaluator to review your file and make sure that everything is in order for you to graduate. The graduation application is available for downloading on the Graduate College website. The application form must be signed and returned to the Graduate College by the deadline posted on the Graduate College website. Applications for graduation will not be processed unless all required forms and documents
have been submitted to the Graduate College including degree program, and if required the prospectus approval, appointment of advisory committee, and for doctoral students the advancement to candidacy form.

If students do not complete the degree requirements in the term anticipated, it is expected that they will do so in the next regular term (summer excluded). A new application for graduation must be filed, and an additional diploma fee will be charged. In addition, students must be enrolled in a minimum of 3 credits during the term they apply for and expect to graduate.

**Granting of Degrees**

Degrees are awarded three times a year in May, December, and August. Students must be enrolled in a minimum of 3 credits during the term they intend to graduate. When students apply for graduation, the Graduate College reviews the degree program. The Graduate Dean certifies that they have met degree requirements and a recommendation is forwarded to the Board of Regents. If any requirement has not been met, the degree will not be awarded. The degree will be revoked if it is awarded in error, or if it is later discovered that the degree requirements were not met, or if fraudulent claims are later discovered.

**Commencement**

Students may not participate in commencement prior to completion of all degree program requirements. Commencement is held twice a year in May and December. August graduates may participate in the December commencement following the completion of degree requirements.
Lee Business School
The Lee Business School offers four graduate programs. The Master of Science in Accountancy (MSA) provides professional preparation for students wishing to pursue careers in taxation, public accounting, managerial or corporate accounting, and government. The MSA also provides the necessary course work for sitting for the CPA exam in Nevada and other 150-hour jurisdictions.

The Master of Science in Management Information Systems (MS MIS) prepares graduates for professional careers in the management of information technology (IT). MIS students earn competency in IT, embedded in a business context that provides them with well-rounded preparation for occupations in high demand.

The M.A. in Economics focuses on applied and empirical economics and also provides students with a strong foundation for further graduate study at the Ph.D. level. The core of the program includes the basic theory of microeconomics, macroeconomics, as well as math for economists. To develop empirical skills, students must take two courses that use statistical analysis to examine interesting economic problems.

The largest graduate program in the college, the MBA, is designed to prepare the individual to meet the challenges of rapid change in business and in society through emphasis on managerial concepts and analytical reasoning. The particular focus on theory and practice produces special qualities in the UNLV MBA graduate. By studying managerial theory and economic principles, the student acquires the capacity for assuming responsibility in a wide variety of roles within an organization.

Paul A. Jarley, Dean
(2007) Business; Ph.D., University of Wisconsin-Madison; MPP, University of Michigan Ann Arbor; BA, University of Michigan Ann Arbor.

MKT 711 Credits 3
Strategic Marketing Management
Development of effective strategic marketing analysis, planning, implementation, and control skills. Emphasis on market appraisal, industry structure, competitive advantage, product management, distribution strategy, promotion management, market segmentation, positioning strategies, and strategic marketing program decision making. Stresses case analysis and the solution of strategic marketing problems. Prerequisites: Completion of the MBA core or approval of the Director of MBA Programs.

MKT 720 Credits 3
Customer Satisfaction and Service Quality Measurement
Design, analysis, interpretation, and communication of measurement and multivariate techniques to assess customer satisfaction, service quality and related marketing issues. Includes scaling, sampling, data collection, reliability, and validity. Prerequisites: Completion of the MBA core or approval of the Director of MBA Programs.

MKT 737 Credits 3
New Service and Product Development
New service and product development process. Evaluation of potential markets. Identification design, and development of new services and products consistent with customer needs. Idea generation, concept testing, test marketing and commercialization discussed. Prerequisites: Completion of the MBA core or consent of the Director of MBA Programs.

MKT 757 Credits 3
Strategic Database Marketing
Theory and practice of use of databases to enhance marketing programs and build customer relationships. Topics include: one on one marketing, relationship building strategies, customer cloning, RFM, calculating lifetime value of customers, modeling tools and processes, customization of offers and retention strategies. Prerequisites: Completion of the MBA core or consent of the Director of MBA Programs.

MKT 777 Credits 3
Services Marketing
Marketing problems and strategies specific to service industries. Differences in the marketing of intangibles and services. Emphasis on services in general, rather than any particular industry. Concepts applied to such
service of the art information for marketing in today's changing environment. Key topics include: competitive advantage, segmentation, relationship development, and competitive positioning.

**Prerequisites** Completion of the MBA core curriculum or consent of the Director of MBA Programs.
Accounting

Chair

Tandy, Paulette R.

(1989), Associate Professor; B.S., Appalachian State University; MBA, Ph.D., Texas A&M; CPA, North Carolina.

Graduate Coordinator

Charron, Kimberly

(1997), Associate Professor; B.S., Ph.D., University of Arizona; CMA.

Graduate Faculty

Aalberts, Robert J.

(1991), Professor; B.A., Bemidji State University; M.A., University of Missouri; J.D., Loyola University.

Enlow, Ryan

(2010), Lecturer, B.S.B.A., M.S., University of Nevada Las Vegas.

France, James

(2003), Lecturer, B.S., United States Air Force Academy; MBA, University of Colorado; M.S. University of Nevada Las Vegas.

Jones, Donald

(2011), Lecturer, B.S.B.A., Bowling Green State University; J. D., University of Akron; LL.M., Georgetown University; CPA, Texas, Washington D.C.

McCaslin, Thomas E.

(1988), Associate Professor; B.B.A., University of Houston; M.A., D.B.A., University of Tennessee; CPA, Texas.

Messier, William F. Jr.

(2008), Kenneth and Tracy Knauss Endowed Chair in Accounting; B.B.A., Siena College; M.S., Clarkson University; M.B.A and D.B.A, Indiana University; CPA, Florida.

Moores, Charles T.

(1989), Professor; B.S., University of Arkansas at Little Rock; M.S., Ph.D., Louisiana State University; CPA, Texas.

Raschke, Robyn

(2007), Assistant Professor; B.B.A., M.ACC., University of Georgia; Ph.D., Arizona State University; CPA, Georgia.

Simon, Chad

(2008), Assistant Professor; B.S., M.ACC., Brigham Young University; Ph.D., University of Georgia.

Smith, Jason L.

(2008), Assistant Professor; B.S. M.ACC., Brigham Young University; Ph.D., University of Arizona; CPA, Colorado.

Zimmerman, John

(1989), Associate Professor; B.S., Glassboro State College; M.S., Golden Gate University; J.D., Southwestern University School of Law; CPA, California and New Jersey.

Professors Emeriti

Baldwin, Duane E.

(1975-1996), Emeritus Professor; B.S., M.A., San Jose State University; D.B.A., University of Southern California; C.P.A., Nevada, Utah.

Bakay, Virginia H.

(1978-1997), Emeritus Associate Professor; B.B.A., Memphis State University; M.A., Ph.D., University of Alabama; C.P.A., Tennessee.
Milne, Ronald A.  
(1983-2000), Emeritus Associate Professor; B.S., Arizona State University; MBA, Michigan State University; Ph.D., University of Illinois.

The Master of Science in Accounting is a professional degree designed to enhance the skills of those planning careers in accounting. The program of study includes training in advanced accounting topics such as auditing, financial accounting, accounting systems, and taxation. The Master of Science in Accounting requires a minimum of 30 credit hours above the bachelor’s degree.

The A.A.C.S.B - International Association for Management Education accredits the Master of Science in Accounting. The Nevada State Board of Accountancy requires 150 hours of college credits from a college or university approved by the State Board of Accountancy. In combination with an undergraduate degree, the 30 hours required by the M.S. in the Accounting program should satisfy these requirements.

Programs

- Accounting M.S.
- Certificate Programs in Accounting

Accounting M.S.

Admission Requirements

Each student must satisfy the following requirements for admission into the Master of Science in Accounting:

1. A bachelor’s degree from an accredited college or university. A minimum GPA of 3.00 or higher on a 4.00 scale.
2. A minimum GMAT score of 550 and a minimum score in the 25th percentile or higher on Quantitative.
3. The GMAT may be waived for UNLV accounting students who have a 3.25 GPA in the core accounting courses (ACC 400, 401, 402, 405, 409, 410 and 470).
4. Compliance with the Graduate College admission standards.

Degree Requirements

The student and the department graduate program coordinator will design each degree program. Students seeking a Master of Science in Accounting must comply with all general university requirements as outlined in the Graduate Catalog. In addition, the following specific requirements must be satisfied.

Track I: Students Holding a Baccalaureate in Accounting

All students must complete a minimum of 30 graduate credit hours, including at least 18 credit hours in 700-level courses. These courses must include the following:

1. A minimum of 18 graduate credit hours in accounting.
2. A minimum of nine graduate credit hours outside the accounting discipline. These courses must be beyond the usual College of Business Core.

Track II: Students Holding a Non-Accounting Baccalaureate

All students must complete a minimum of 36 graduate credit hours, including at least 18 credit hours in 700-level courses. When courses from the list of background core-requirements are also required, the entire program must have at least fifty percent of the credit hours in 700-level courses. These courses must include the following:

1. A minimum of 18 graduate credit hours in accounting.
3. A minimum of nine graduate credit hours outside the accounting discipline. These courses must be beyond the usual College of Business Core.

A student who holds a bachelor’s degree in a non-accounting field may also have to satisfy the following background core requirement.

- ACC 600 - Accounting Environment
- ACC 601 - Financial Reporting I
- ACC 609 - Accounting Information Systems
- ACC 610 - Federal Taxation
- ACC 673 - Law For Accountants I
- ACC 700 - Financial and Managerial Accounting
  or
- MBA 709 - Accounting for Managers
- MBA 711 - Managerial Finance

Some or all of the background business core may be completed before admission into the M.S. program.

Program Modifications

The Graduate Coordinator must approve exceptions or modifications of above program and requirements.

Graduate and Advanced Graduate Certificates in Accounting

The certificates are designed to prepare professionals, who may be switching careers or those entrepreneurs who want accounting skills to better run their business, with fundamental knowledge in accounting. Successful completion of the Graduate Certificate in Accounting will prepare students to enter the Advanced Graduate Certificate in Accounting or the M.S. in Accounting program. This Graduate Certificate coupled with the Advanced Graduate Certificate in Accounting will provide professionals without an undergraduate degree in accounting the needed accounting credits to sit for the Certified Public Accounting (C.P.A.) exam.

Graduate Certificate in Accounting

Admission Requirements

Admission requirements include an undergraduate degree with a 2.75 GPA or higher and successful completion of two undergraduate accounting courses (ACC201 Introduction to Financial Accounting or equivalent and ACC202 Introduction to Managerial Accounting or equivalent).

Certificate Requirements

The program consists of six graduate classes currently offered by the UNLV Department of Accounting. All certificate students will take the core accounting courses:

- ACC 600 - Accounting Environment
- ACC 601 - Financial Reporting I
- ACC 602 - Financial Reporting II
- ACC 609 - Accounting Information Systems
- ACC 610 - Federal Taxation
- ACC 670 - Auditing and Assurance Services

Deviations to these six courses may be approved by the Graduate Coordinator.

Advanced Graduate Certificate in Accounting

Admission Requirements

Admission requirements include the successful completion of either an undergraduate degree in accounting or the UNLV Certificate in Accounting or equivalent coursework with a GPA of 2.75 or higher.
If desired, upon successful completion of the Advanced Certificate in Accounting Program, students may apply for admittance into the MS Accounting program. General Admission requirements for admission to the MS Accounting program are a 3.0 GPA or higher and a Graduate Management Admission Test (GMAT) score of 550 or higher. Students who complete the Advanced Certificate in Advanced Program with a 3.4 GPA or higher may waive the GMAT requirement. To transfer classes taken during the Certificate program into the MS program, students must earn a B or better in the course.

Certificate Requirements

The Advanced Certificate in Accounting Program is made up of accounting classes currently offered through the department. Program students will take five of the following courses (at least four of which must be at the 700 level):

- ACC 605 - Cost Management and Control
- ACC 606 - Auditing in the Gaming Industry
- ACC 607 - Governmental and Not-for-Profit Accounting
- ACC 612 - Fraud Examination
- ACC 620 - Internal Auditing
- ACC 701 - Federal Tax Topics
- ACC 702 - Financial Reporting Topics
- ACC 703 - Issues in Federal Taxation
- ACC 705 - Research Methodology in Federal Taxation and Practice Before the IRS
- ACC 706 - Auditing Theory and Applications
- ACC 709 - Systems Theory and Applications
- ACC 715 - Advanced Management Accounting
- ACC 725 - Mergers, Acquisitions and Divestitures
- ACC 740 - Taxation of Corporations and Shareholders
- ACC 745 - Taxation of Partnerships

ACC 600

Accounting Environment
This undergraduate course has been approved for use in graduate programs. Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the UNLV Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 600-level normally requires additional work.

ACC 601
Financial Reporting I
This undergraduate course has been approved for use in graduate programs. Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the UNLV Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 600-level normally requires additional work.

ACC 602
Financial Reporting II
This undergraduate course has been approved for use in graduate programs. Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the UNLV Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 600-level normally requires additional work.

ACC 605
Cost Management and Control
This undergraduate course has been approved for use in graduate programs. Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the UNLV Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 600-level normally requires additional work.

ACC 606
Auditing in the Gaming Industry
This undergraduate course has been approved for use in graduate programs. Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the UNLV Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 600-level normally requires additional work.

ACC 607
Governmental and Not-for-Profit Accounting
This undergraduate course has been approved for use in graduate programs. Graduate credit may be obtained for courses designated 600 or above. A full
description of this course may be found in the UNLV Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 600-level normally requires additional work.

ACC 609
Accounting Information Systems
This undergraduate course has been approved for use in graduate programs. Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the UNLV Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 600-level normally requires additional work.

ACC 610
Federal Taxation
This undergraduate course has been approved for use in graduate programs. Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the UNLV Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 600-level normally requires additional work.

ACC 612
Fraud Examination
This undergraduate course has been approved for use in graduate programs. Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the UNLV Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 600-level normally requires additional work.

ACC 620
Internal Auditing
This undergraduate course has been approved for use in graduate programs. Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the UNLV Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 600-level normally requires additional work.

ACC 650
International Accounting
This undergraduate course has been approved for use in graduate programs. Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the UNLV Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 600-level normally requires additional work.

ACC 673
Law For Accountants I
Introduction to law and the court system; introduction to torts; contracts and sales; real and personal property.

ACC 700
Financial and Managerial Accounting
Overview of the accounting cycle with an emphasis on the preparation and analysis of financial statements. Basic concepts and procedures of managerial accounting. Provides a foundation for identifying and analyzing alternatives useful for decision making. Notes For non-business undergraduates only. Credit will not be given towards the MS degree.

ACC 701
Federal Tax Topics
Advanced tax topics involving corporations, proprietorships, and individuals. Prerequisites ACC 410 or ACC 610 or equivalent.

ACC 702
Financial Reporting Topics
Advanced accounting principles, theory, and practice used in the preparation, interpretation, and analysis of general purpose financial statements for external users. Prerequisites ACC 402 or ACC 602 or equivalent.

ACC 703
Issues in Federal Taxation
Broad survey course that examines an array of topics using the Internal Revenue Code, Treasury Regulations, court cases and IRS rulings. Topics include income recognition and exclusions, capitalizations, deductions, fringe benefits, capital assets, tax free exchanges and other topics. Prerequisites ACC 410 or ACC 610 or equivalent.
ACC 705 Credits 3
Research Methodology in Federal Taxation and Practice Before the IRS
Federal tax research methodology as related to practical problem solving in the areas of accounting practice and administrative tax procedures before the Internal Revenue Service and the United States Tax Court. Prerequisites ACC 410 or ACC 610 or equivalent.

ACC 706 Credits 3
Auditing Theory and Applications
Examination of the changing business environment of the auditor and the impact of these changes on auditing philosophy, objectives, and methodology. Contemporary issues in auditing examined. Prerequisites ACC 470 or ACC 670 or equivalent.

ACC 709 Credits 3
Systems Theory and Applications
Through readings and case studies, the course develops knowledge needed in the accounting information systems field from advanced topics that focus on design and implementation issues of enterprise systems. Emerging issues in the application of technology to accounting information systems and IT auditing tools and risk assessment are also examined. Prerequisites ACC 409 or ACC 609 or equivalent.

ACC 715 Credits 3
Advanced Management Accounting
Explores contemporary issues facing management accountants through readings and case studies. Emphasis will be placed on the topics of financial leadership, ethics and strategic decision making. Prerequisites Consent of instructor.

ACC 725 Credits 3
Mergers, Acquisitions and Divestitures
Accounting concepts, practices, and procedures involved in accounting for business combinations, multinational-national corporations, and divestitures. Prerequisites ACC 401 or ACC 601 or equivalent.

ACC 740 Credits 3
Taxation of Corporations and Shareholders
Federal income tax problems of corporations and shareholders including organization, capital structure, distributions, undistributed income, stock redemptions and partial liquidations. Prerequisites ACC 410 or ACC 610 or consent of instructor.

ACC 745 Credits 3
Taxation of Partnerships
Tax considerations of organization and operation of partnerships. Partnership distributions, withdrawal of partners, problems upon death of a partner, dissolution of partnership, and sale of an interest. Prerequisites ACC 410 or ACC 610 or consent of instructor.

ACC 749 Credits 3
Seminar in Estate Planning
Estate and gift taxation with consideration of estate planning devices, generation skipping transfer tax, marital deduction and liquidity problems. Prerequisites ACC 410 or ACC 610 or equivalent.

ACC 774 Credits 3
Law for Accountants II
Law of commercial paper; secured transactions; creditor's rights; bankruptcy; agency; business organizations (partnerships and corporations); security regulation. Prerequisites ACC 473 or ACC 673.

ACC 781 Credits 3
Internship
Supervised professional learning experience in accounting with business firms, nonprofit organizations or government agencies. Project report required. Prerequisites Admission to MS Accounting program.

ACC 789 Credits 3
Seminar in Accounting
Study in specialized areas of accounting. Notes May be repeated to a maximum of six credits. Prerequisites ACC 402 or ACC 602 or consent of instructor.

ACC 791 Credits 3
Professional Paper

BLW 650
Law of the Internet
This undergraduate course has been approved for use in graduate programs. Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the UNLV Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 600-level normally requires additional work.
BLW 674
Business Law II
This undergraduate course has been approved for use in graduate programs. Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the UNLV Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 600-level normally requires additional work.
Business Administration

Director of MBA Programs

Leong, Keong
(2001), Professor; B.S., University of Malaysia; M.B.A., Ph.D., University of South Carolina.

Graduate Faculty

Aalberts, Robert J.
(1991), Leid Professor; B.A., Bemidji State University; M.A., University of Missouri; J.D., Loyola University.

Alder, G. Stoney
(2002), Associate Professor, B.S., University of Utah; MBA, Brigham Young University; Ph.D. University of Colorado.

Chang, Saeyoung
(1999), Associate Professor; B. Commerce, University of Calgary; MBA, Indiana University; Ph.D., Ohio State University.

Chatfield, Robert E.
(1988), Professor; B.A., Eastern Nazarene College; M. S., Ph.D., Purdue University.

Choi, Seungmook
(1991), Professor; B.A., Korea University; M.A., Ph.D., University of Texas, Austin.

Close, Angeline G.
(2006) Marketing; Assistant Professor; Ph.D., University of Georgia.

Cross, James
(1989), Associate Professor; B.S., MBA, Ph.D., University of Minnesota.

Gilbert, Joseph T.
(1991), Associate Professor; B.A., M.A., St. Louis University; Ph.D., University of Southern California.

Hames, David S.
(1989), Associate Professor; B.A., Albion College; M.A., Michigan State University; Ph.D., University of North Carolina, Chapel Hill.

Hsu, Chin-Chun
(2003), Assistant Professor; B.S., Tamking University; MBA, California State University, San Bernardino; Ph.D. Candidate, Saint Louis University.

Jameson, Melvin H.
(1989), Professor; S.B., Massachusetts Institute of Technology; M.A., Ph.D., University of California, Berkeley.

Krishen, Anjala S.
(2007) Marketing; Assistant Professor of Marketing; M.A., Virginia Polytechnic Institute and State Univ; M.B.A., Virginia Polytechnic Institute and State University; B.S., Rice University.

LaTour, Michael S.
(2004), Professor; B.B.A., M.B.A., Boise State University; Ph.D., University of Mississippi.

Leong, Keong
(2001), Professor, B.S., University of Malaysia; M.B.A., University of South Carolina; Ph.D., University of South Carolina.

McAllister, Daniel W.
(1982), Associate Professor; B.S., MBA, University of Utah; Ph.D., University of Washington.
<table>
<thead>
<tr>
<th>Name</th>
<th>Year</th>
<th>Title</th>
<th>Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mejza, Michael</td>
<td>(1998)</td>
<td>Associate Professor</td>
<td>B.A., University of Connecticut; MBA, Ph.D., University of Maryland.</td>
</tr>
<tr>
<td>Miller, Alan N.</td>
<td>(1978)</td>
<td>Professor</td>
<td>B.A., University of New Hampshire; B.A., Temple University; MBA, Syracuse University; M.Phil., Ph.D., City University of New York.</td>
</tr>
<tr>
<td>Naylor, Gillian</td>
<td>(1996)</td>
<td>Associate Professor</td>
<td>B.A., Washington State University; MBA, Eastern Washington State University; Ph.D., University of Arizona.</td>
</tr>
<tr>
<td>Pominleanu, Nadia</td>
<td>(2009)</td>
<td>Assistant Professor</td>
<td>B.S., Academy of Economic Studies; Ph.D., University of Central Florida.</td>
</tr>
<tr>
<td>Poon, Percy</td>
<td>(1989)</td>
<td>Associate Professor</td>
<td>Honors Diploma, Hong Kong Baptist College; MBA, Southwest Texas State University; Ph.D., Louisiana State University.</td>
</tr>
<tr>
<td>Schibrowsky, John</td>
<td>(1988)</td>
<td>Professor</td>
<td>B.S., University of Wisconsin-Superior; MBA, University of Northern Iowa; Ph.D., University of Wisconsin-Madison.</td>
</tr>
<tr>
<td>Seale, Darryl Anthony</td>
<td>(1999)</td>
<td>Professor</td>
<td>B.S., California State University, Chico; MBA, Pennsylvania State University; M.A., Ph.D., University of Arizona.</td>
</tr>
<tr>
<td>Sullivan Michael J.</td>
<td>(1991)</td>
<td>Professor</td>
<td>B.S., St. John Fisher College; MBA, University of Florida; Ph.D., Florida State University.</td>
</tr>
<tr>
<td>Tan, Keah-Choon</td>
<td>(1998)</td>
<td>Professor</td>
<td>B.S., MBA, University of South Alabama; Ph.D., Michigan State University.</td>
</tr>
<tr>
<td>Wang, Sheng</td>
<td>(2005)</td>
<td>Associate Professor</td>
<td>Management; Ph.D., Ohio State University Main Campus; MLHR, Ohio State University Main Campus.</td>
</tr>
<tr>
<td>Wisner, Joel D.</td>
<td>(1991)</td>
<td>Professor</td>
<td>B.S., New Mexico State University; MBA, West Texas State University; Ph.D., Arizona State University.</td>
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<tr>
<td><strong>Professors Emeriti</strong></td>
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<tr>
<td>Dandurand, Lawrence</td>
<td>(1973)</td>
<td>Emeritus Professor</td>
<td>B.S.B., University of Minnesota; M.A., Mankato State College; Ph.D., University of Missouri.</td>
</tr>
<tr>
<td>Newbould, Gerald D.</td>
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</tbody>
</table>
(1988), Emeritus Professor; B.Com., University of Birmingham; M.A., University of Sheffield; Ph.D., University of Liverpool.

Pinney, J. Kent

Richards, Clinton H.
(1977), Emeritus Professor; B.S., M.B.A, Ph.D., University of Kansas.

Yantis, Betty L.
(1975-1998), Emeritus Professor; B.S.C.E., M.S.C.E., M.A., Ph.D., University of Arkansas.

The Lee Business School offers the following MBA programs:

Master of Business Administration - Evening
Dual MBA and M.S. in Hotel Administration
Dual MBA and M.S. in Management Information Systems
Dual degree in Dental Medicine and Master of Business Administration (DMD/MBA)
Dual degree in Jurist Doctorate and Master of Business Administration (JD/MBA)
Master of Business Administration – Executive MBA (EMBA)

All programs offered by the Lee Business School at UNLV are accredited by AACSB -- The Association to Advance Collegiate Schools of Business.

The Master of Business Administration

The Lee Business School MBA programs at UNLV are designed for those who seek global career and leadership opportunities. Today’s business leaders face challenges which are quite different from those of a generation ago. Faced with a global competitive business environment and supported by new information and communication technologies, organizational structures are changing. Success in the new marketplace requires teams of executives working across functions and across borders.

The MBA programs at UNLV prepare students to succeed in today’s business environment by providing them with the needed skills, knowledge, and tools to become visionary and creative leaders. The program focuses on ethics and critical thinking, business communications, the role of the firm and its goals and markets, firms’ strategic planning and positioning, value chain management approach, international business culture, technology management, integration of curriculum, and teamwork. Our faculty and administration are committed to fulfilling the recently revised college mission: to advance the knowledge and practice of the disciplines that constitute business and administration and to foster the intellectual and economic vitality of Nevada and the Intermountain Region through teaching, research, and outreach. Our faculty are committed to continuous quality improvement of the curriculum and teaching, to increased vertical and horizontal integration of course material, and to team teaching and team learning. To achieve the best outcome, the faculty embrace no single teaching method, but rather employ a combination of methods best suited to the particular objectives of the course. Lectures, group discussions, seminars, case studies, computer simulations, and individual and group research projects are frequently used within courses and across the curriculum.

MBA Program Highlights

- A holistic approach to business management which starts with the role of the firm, its goals and markets, its strategic planning and positioning, and value chain management.
- Curriculum allows students to think actively about connections among disciplines by emphasizing key functional areas in integrative course modules and team teaching across disciplines.

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Explicit emphasis on a framework for analysis of ethical issues and critical thinking.

A greater emphasis on international studies through a specific course in international business and cross-cultural perspective and a greater internationalization of other courses.

An evening MBA Program accommodating the needs of both full-time and part-time students by allowing students to complete their degree at a pace that fits their personal schedule.

A 15-hour concentration with up to six hours of electives provides the opportunity of in-depth specialization and a greater flexibility in tailoring programs of study to each student’s needs and interests.

Graduate Non-Degree Seeking Students

Students who have begun the admission process for the MBA program may be considered to take courses as a non-degree seeking student before being admitted to the program. Students must have a current application for admission on file and satisfy the minimum admission requirements for the upcoming semester including GMAT. Students must receive the approval of the MBA Director before enrolling in graduate courses offered by the Lee Business School. Approval may be granted for one semester only and for a maximum of six credit hours. Approval is restricted to the courses in the first half of the MBA core.

Transfer Credit and Prior Course Work

A maximum of fifteen credit hours of MBA courses taken prior to admission to the program may be applied towards the MBA degree requirement. This includes all courses taken as a fully admitted graduate student at an AACSB accredited business school or as a non-admitted student at UNLV. Graduate work below a B (3.00) or work taken pass/fail is not transferable toward the MBA degree. Requests for transfer course work must be evaluated and approved by the MBA Director after the student is officially admitted.

Probation and Suspension

Student academic performance is reviewed twice a year. Admitted students must enroll for courses every semester, excluding Summer Term, and must complete at least 6 credit hours every year. Prior approval from the MBA Director and Graduate College is required if a student plans to take a leave of absence for a semester.

A student will be placed on probation if it is determined that a student is not making satisfactory progress toward meeting degree requirements or if the student’s overall GPA falls below 3.00. Conditions and deadlines for the removal of probation will be specified. Failure to meet the conditions will result in separation from the MBA program.

Programs

- Business Administration & Dental Medicine Dual M.B.A./D.M.D.
- Business Administration & Hotel Administration Dual M.B.A./M.S.
- Business Administration & Juris Doctor Dual M.B.A./J.D.
- Business Administration & Management Information Systems Dual M.B.A./M.S.
- Business Administration Executive M.B.A.
- Business Administration M.B.A.

Business Administration & Dental Medicine Dual M.B.A./D.M.D.

The University of Nevada, Las Vegas School of Dental Medicine and the Lee Business School offer a dual Doctorate of Dental Medicine (DMD) and Master of Business Administration (MBA) degree program that allows students to be admitted in both programs and achieve the DMD and MBA degrees. As a concurrent program, the dual degree requires that students satisfy the degree requirements of both
programs.

The MBA degree at UNLV requires 48 credit hours. The Dental degree requires 195 credit hours. Under the dual degree program fifteen credit hours of dental courses are accepted towards the MBA degree.

**Admission Requirements**

Applicants to the DMD/MBA program must submit formal applications for admission to both the School of Dental Medicine and to the Lee Business School. Students must meet the requirements for admission to both programs. Admissions requirements are the same as those stated under the DMD and MBA programs. Contact the UNLV School of Dental Medicine and the Lee Business School MBA programs for further information on admissions requirements. Applications from current students in either program will be considered. Entry into the MBA program for students from School of Dental Medicine will be no earlier than the Fall semester of year two of the dental curriculum. However, petitions requesting admission to the dual DMD/MBA program from students at more advanced stages will be considered.

**Application Process**

See application process under the MBA and School of Dental Medicine. In addition, include a letter of intent indicating you are applying for the dual DMD/MBA degree.

**Degree Requirements**

Students must be admitted to both the DMD and MBA programs with graduate standing. The candidates must successfully complete the 186 credit hours of Dentistry and the 33 credit hours of the MBA required course work.

Furthermore:

1. UNLV School of Dental Medicine cannot award credit for any class taken before matriculation.
2. A maximum of six credit hours of courses taken prior to admission to the DMD/MBA program may be applied towards the MBA degree requirement. This includes all courses taken as a fully admitted graduate MBA student at an AACSB accredited business school, as an admitted dental student at UNLV, or as a non-admitted student at UNLV before admission to the MBA program.
3. DMD/MBA candidates who subsequently decide to pursue only the DMD or only the MBA must complete the degree program in its entirety and are subject to the same rules and requirements as students not pursuing the DMD/MBA program.
4. DMD/MBA may not receive credit for taking courses outside their degree program except as set forth in this document and with prior approval.
5. Student honors and class ranks at the School of Dental Medicine will be computed based solely on dental classes. Student honors and class ranks at the Lee Business School will be computed based solely on business classes.
6. Students in the DMD/MBA program must remain in good standing at both DMD and MBA programs.
7. Students in the DMD/MBA program are subject to the same rules and regulations that apply to all students at the School of Dental Medicine and the Lee Business School.
8. The Lee Business School and the School of Dental Medicine reserve the right to limit participation in the program, including dismissal. Those interested are encouraged to submit a request for permission to participate in the program, along with applications for admission, at the earliest possible time.
MBA Core Required Courses - Total Credits: 33

- MBA 702 - Statistical Analysis
- MBA 706 - Law, Regulations and Ethical Issues
- MBA 707 - Organizational Behavior
- MBA 709 - Accounting for Managers
- MBA 710 - Applied Economic Analysis
- MBA 711 - Managerial Finance
- MBA 715 - Market Opportunity Analysis
- MBA 720 - Supply Chain Management
- MBA 730 - Information Systems for Management
- MBA 735 - International Business and Cross Cultural Perspectives
- MBA 795 - Strategy Formation Processes (to be completed during student’s Final semester.)

Total Dental Course Credit Accepted: 15

M.S. in Hotel Administration.

Admission Requirements

The admission requirements for the dual degree program are the same as those stated under the M.B.A. and M.S. in Hotel Administration programs. Administration requires that applicants submit evidence of at least one year of full-time experience in management in the hospitality industry or three years of consecutive full time entry-level experience in hospitality.

Application Process

See the Application Process Section under the M.B.A. and M.S. in Hotel Administration programs. Applicants must be admitted to both the M.B.A. and Master of Science in Hotel Administration programs to qualify for either dual degree program.

Degree Requirements

Students must be admitted to both the M.B.A. and M.S. in Hotel Administration programs with graduate standing. A student must successfully complete the 33 credit hours of the M.B.A. required core courses and the 21 credits hours of required Hotel Administration courses, consisting of eighteen credits of required courses and one three credit elective course (600/700 level).

Required courses are:

A. MBA Core Courses - Total Credits: 33

MBA 702 - Statistical Analysis
MBA 706 - Law, Regulations and Ethical Issues
MBA 707 - Organizational Behavior
MBA 709 - Accounting for Managers
MBA 710 - Applied Economic Analysis
MBA 711 - Managerial Finance
MBA 715 - Market Opportunity Analysis
MBA 720 - Supply Chain Management
MBA 730 - Information Systems for Management

Business Administration & Hotel Administration Dual M.B.A./M.S.

The dual MBA and M.S. in Hotel Administration program of study is designed for those who seek career and business leadership opportunities in hotel administration. The programs will provide students with the needed skills, knowledge, and tools to become visionary and creative business leaders in hotel administration. The core MBA program is designed to advance the knowledge and practice of business and administration. The M.S. in Hotel Administration portion of the dual degree is designed to provide the industry-specific teaching and learning program. The program takes advantage of the natural learning environment that is created by the Las Vegas economy, the entertainment capital of the world. Students will receive a dual degree, an MBA and a
MBA 735 - International Business and Cross Cultural Perspectives  
MBA 795 - Strategy Formation Processes

B. Hotel Administration M.S. Courses (dual M.B.A. degree) - Total Credits: 21

HOA 703 - Human Resources Management in the Hospitality Industry  
HOA 716 - Principles and Practices in Hotel Management

or

HOA 717 - Principles and Practices in Convention and Meetings Management

HOA 718 - Principles of Casino and Gaming Management

or

HOA 720 - Principles and Practices in Food Service Management  
HOA 735 - Research Methodology  
HOA 760 - Research Seminar in Hotel Administration

or

HOA 761 - Research Seminar in Food Service Administration

or

HOA 763 - Research Seminar In Casino and Gaming Management

or

HOA 777 - Critical Issues in Hospitality Management  
HOA 751 - Hospitality Service Management  
HOA 788 - Professional Paper  
HOA Elective (500- or 700-level)

Business Administration & Juris Doctor Dual M.B.A./J.D.

The William S. Boyd School of Law and the Lee Business School offer a dual Juris Doctor (JD) and Master of Business Administration (MBA) degree program that allows students to be admitted in both programs and achieve the JD and MBA degrees simultaneously. As a concurrent program, the dual degree requires that students satisfy the degree requirements of both programs. The MBA degree at UNLV requires 48 credit hours. The traditional Law degree requires 89 credit hours. The JD/MBA dual degree requires 80 Law credit hours and 33 MBA credit hours. Under the dual degree program 15 credit hours of Law courses are accepted towards the MBA degree and nine credit hours of MBA courses are accepted towards the JD degree.

Admission Requirements

Applicants to the JD/MBA program must submit formal applications for admission to both the William S. Boyd School of Law and to the Graduate College. Students must meet the requirements for admission to both programs. Admission requirements are the same as those stated under the regular JD and MBA programs. For information on the MBA program application procedures, interested individuals should contact the Lee Business School-MBA Program at (702) 895-3655 or go to http://business.unlv.edu or the William S. Boyd School of Law at (702) 895-2440 or go to http://www.law.unlv.edu

While applications from current students in either program will be considered, students normally should seek and satisfy admission to enter both programs upon entering the university. However, petitions requesting admission to the dual JD/MBA program from students at more advanced stages in either program will be considered.

Application Process

See the application process under the MBA and School of Law programs. In addition, include a letter of intent indicating you are applying for the dual JD/MBA degree.

Degree Requirements

Students must be admitted to both the JD and MBA programs with graduate standing. The candidates must successfully complete the 80 credit hours of
Law course work and 33 credit hours of the MBA required course work. Furthermore:

1. William S. Boyd School of Law cannot award credit for any class taken before matriculation. JD/MBA candidates must therefore enroll at the School of Law before taking any MBA courses to be counted toward the JD degree.

2. A maximum of six credit hours taken prior to admission to the JD/MBA program may be applied towards the MBA degree requirement. This includes all courses taken as a fully admitted graduate MBA student at an AACSB accredited business school, as an admitted law student at UNLV, or as a non-admitted student at UNLV before admission to the MBA program.

3. JD/MBA candidates who subsequently decide to pursue only the JD or only the MBA must complete the degree program in its entirety and subject to the same rules and requirements as students not pursuing the JD/MBA program. Because students must finish both programs to receive credit toward the JD/MBA, degrees will not be awarded until both programs are finished.

4. JD/MBA candidates must comply with the requirements for all students regarding the maximum amount of time for completion of a degree program. Law students have a maximum of 7 years to complete the J.D. degree. The Graduate College imposes a six-year time limit for completion of a master’s program.

5. JD/MBA candidates may not receive credit for taking courses outside their degree program without prior approval.

6. Student honors and class ranks at the William S. Boyd School of Law will be computed based solely on law classes. Student honors and class ranks at the Lee Business School will be computed based solely on classes taken as business classes.

7. Students in the JD/MBA program must remain in good standing at both JD and MBA programs.

8. Students in the JD/MBA program are subject to the same rules and regulations that apply to all students at the William S. Boyd School of Law and the Lee Business School.

9. The listing of courses does not constitute a binding commitment that the courses will be offered during the student’s course of study or that the graduation requirements will remain unchanged.

**MBA Core Required Courses - Total Credits: 33**

- MBA 702 - Statistical Analysis (prerequisite for all other MBA courses)
- MBA 706 - Law, Regulations and Ethical Issues
- MBA 707 - Organizational Behavior
- MBA 709 - Accounting for Managers (prerequisite for all other MBA courses)
- MBA 710 - Applied Economic Analysis (prerequisite for all other MBA courses)
- MBA 711 - Managerial Finance (prerequisite for all other MBA courses)
- MBA 715 - Market Opportunity Analysis
- MBA 720 - Supply Chain Management
- MBA 730 - Information Systems for Management
- MBA 735 - International Business and Cross Cultural Perspectives
- MBA 795 - Strategy Formation Processes (to be completed during student’s final semester)

**Boyd School of Law Dual Requirements:**

- Required: 44 credits
- Directed Electives: 18 credits
- Free Electives: 18 credits
Business Administration & Management Information Systems Dual M.B.A./M.S.

The dual MBA and MS MIS program of study is designed for those who seek career and business leadership opportunities in management information systems. The program will provide students with the needed skills, knowledge, and tools to become visionary and creative business leaders with strong competency in management information systems. The core MBA program is designed to advance the knowledge and practice of business and administration. The MS MIS portion of the dual degree is designed to prepare graduates with a broad-based knowledge of information system design, development, implementation, evaluation, and maintenance.

Program Overview

The program includes 57-credits and the student will receive both, an MBA and an MS MIS degree. Each student completes a total of 24 credit hours in MIS courses and a total of 33 credit hours in MBA core courses with a minimum GPA of 3.0. MBA courses are accepted as hours of elective towards the MS MIS degree. The program does not require a thesis.

Admission Requirements

The admission requirements for the dual degree program are the same as those stated under the regular MBA and M.S. in Management Information Systems programs. Applicants must be admitted to both the MBA and Master of Science in Management Information Systems programs. Candidates have to apply to both, the MBA program and the MS MIS program and meet the respective application requirements.

Degree Requirements

Completion of the dual MBA and MS MIS degree includes:

1. Completion of a minimum of 33 credit hours of MBA core courses and a minimum of 24 credits of MS in MIS courses.
2. A grade point average of at least 3.00 for course work required for the degree.
3. No grade lower than C is acceptable.

Students with unsatisfactory progress toward the degree requirements are subject to dismissal. A student with a grade of C or lower in any of the required courses for the degree will be put on probation for one semester. Conditions and deadlines for the removal of probation will be specified. Failure to meet the condition will result in departure from the program. A student with two grades of C or lower will be dropped from the program.

The following courses are required for the dual degree:

MBA Core Courses - Total Credits: 33

MBA 702 - Statistical Analysis
MBA 706 - Law, Regulations and Ethical Issues
MBA 707 - Organizational Behavior
MBA 709 - Accounting for Managers
MBA 710 - Applied Economic Analysis
MBA 711 - Managerial Finance
MBA 715 - Market Opportunity Analysis
MBA 720 - Supply Chain Management
MBA 730 - Information Systems for Management
MBA 735 - International Business and Cross Cultural Perspectives
MBA 795 - Strategy Formation Processes
M.S. in Management Information Systems
Courses - Total Credits: 24

MIS 740 - Software Concepts
MIS 744 - Information Systems Planning & Strategy
MIS 746 - Information Systems Project Management
MIS 760 - Data Communications and Systems
MIS 762 - Systems Analysis, Modeling and Design
MIS 764 - Advanced Web Development and Electronic Commerce
MIS 766 - Data Management
MIS 773 - Research Seminar in Information Systems

Business Administration
Executive M.B.A.

The Executive Master’s in Business Administration (EMBA) program of study offers an integrated blend of theory and practice and provides a general management emphasis that fosters the professional growth of mid- and upper-level career executives. It provides opportunities for integrating professional experiences with academic management curriculum.

The program is designed to provide a holistic educational experience. Courses are sequenced to assure continuity in learning. Through a lock-step format and an innovative curriculum, a group of highly motivated students will be placed in a collaborative, proactive, integrative, and team oriented learning environment.

The students will go through the program as a cohort, with the course scheduling being set at the beginning of the cohort’s program. Students will be able to complete the program in 18 months. Classes will meet on weekends. All students will complete the program as a group. This will provide a unique cohort experience that will enhance teamwork throughout the program.

Admission Requirements

The student must satisfy the minimum requirements of the Graduate College and the EMBA program. The candidate must meet the following requirements:

1. Submission of completed application form and the required $100 nonrefundable application fee.
2. Submission of official transcripts of all college-level course work previously taken and evidence of having been awarded the equivalent of a U.S. bachelor’s degree from an accredited college or university with an overall undergraduate grade point average of at least 3.00 on the four-point scale.
3. Evidence of 5 or more years of work experience, preferably with increasingly higher levels of decision-making.
4. Two letters of recommendation, at least one from the applicant’s current or previous employer and one from someone who can evaluate the applicant’s potential for success in a graduate degree program.
5. Resume.
6. Self-evaluation. The two-page, double-spaced self-evaluation should include a description of significant contributions you have made to your organization and a well-articulated career plan.
7. A personal interview.

All entering students are required to have competency in two areas. First, the applicant must be skilled in the use of word processing and spreadsheet programs. Second, the applicant must possess strong mathematical skills through college algebra. It is the applicant’s responsibility to provide satisfactory evidence of these skills.

The cost of the program for admission in the academic year 2011-12 is $42,000. This includes a $1,000 nonrefundable deposit, due upon acceptance.
to the EMBA program, a first installment of $13,000 and two additional installments of $14,000. Each installment will be due two weeks prior to the first class meeting of the 3 terms. Request for withdrawal from the EMBA program must be made one week prior to the start of each term and the refund amount will only reflect the forthcoming term for which the request was made. No refund for withdrawal will be made thereafter. The $42,000 fee will cover all tuition and fees, textbooks and other course material, software needs, travel for international trip, parking, all meals and refreshments during class meetings, and other activities associated with the program.

Degree Requirements

Students must be admitted to the EMBA program with graduate standing. The candidates must successfully complete the 43 credit hours of required EMBA courses. The academic performance of students is reviewed on a regular basis. If it is determined that a student is not making satisfactory progress toward meeting degree requirements or if the student’s overall GPA falls below 3.00, the student will be placed on probation. Conditions and deadlines for the removal of probation will be specified. Failure to meet the conditions will result in separation from the EMBA program. Graduation requires a minimum overall GPA of 3.00.

Withdrawing from a class is considered as being unsuccessful in that course and in the program and will result in dismissal from the program. A student who, due to extraordinary circumstances, is forced to withdraw from a course and is subsequently dismissed from the program may appeal to the Director of the EMBA Program. Students who do not successfully complete a course in their EMBA program may replace the course with a similar course taken from the regular MBA program at UNLV or with another EMBA cohort at UNLV. The substitution requires the approval of the Director of the EMBA Program in the Lee Business School and is discouraged. Substitution will be possible only under the most unusual circumstances. In no case may more than two courses be substituted.

The content of the courses is customized to meet the need of executives. Classes will generally meet on Friday and Saturday every other weekend. Classes will be from 8:30 a.m. to 12:30 p.m. and 1:30 p.m. to 5:30 p.m. each day. Students must be able to make a commitment to attend all classes.

EMBA Curriculum - Total Credits: 43

Each cohort will take an international trip. The “International Seminar” will be tied to the international trip and will require students to learn about the culture and business practices of the countries to be visited.

- EMBA 701 - Teamwork and Management Effectiveness
- EMBA 702 - Laws, Regulations and Ethics
- EMBA 703 - Microeconomic Analysis for Business Decision Making
- EMBA 704 - Technology Innovation: Theory and Practice
- EMBA 705 - Applied Statistics
- EMBA 707 - Financial Accounting for Managers
- EMBA 708 - Global and Macroeconomic Environment for Business
- EMBA 709 - Organization Behavior
- EMBA 710 - Business Finance
- EMBA 711 - Managerial Accounting
- EMBA 712 - Seminar in Financial Management
- EMBA 713 - Principles of Marketing Strategy
- EMBA 714 - Management of Entrepreneurial Organizations
- EMBA 715 - Strategic Management: Business Strategy and Corporate Strategy
- EMBA 716 - International Business
- EMBA 717 - Negotiations and Conflict Resolution
- EMBA 719 - Executive Assessment and Development
- EMBA 720 - International Seminar
- EMBA 723 - Applied Strategic Marketing
- EMBA 725 - Corporate Risk Management
**Business Administration**

**M.B.A.**

**Admission Requirements**

The Lee Business School MBA Program welcomes applications from college graduates in all disciplines. Applicants must hold a bachelor’s degree from an accredited college or university. Graduates from all majors are encouraged to apply. Applicants are evaluated based upon proven scholastic ability, performance on the Graduate Management Admission Test (GMAT), maturity, motivation, leadership, communication skills, and possess the interest and ability to assume business leadership responsibilities.

**The Application Process**

Admission to the graduate business program is conducted by the MBA Programs and the UNLV Graduate College. Please note that the responsibility of obtaining and submitting the application material, transcripts, test scores and other necessary information rests upon the applicant. In addition, international students must provide proof of English proficiency if the student’s degree is from an institution where English is not the language of instruction.

Refer to the Graduate College Admission & Registration Information contained in this catalog for a complete description of materials and processes required for admission consideration.

The MBA Program requires the following documentation.

1. Official results of the GMAT test. You may indicate your test score and date taken on the application or indicate your expected exam date; however, official copies of the GMAT exam must be submitted to the UNLV Department of Business Administration (MBA Programs Office).
2. A copy of the applicant’s current resume.
3. Two letters of recommendation, academic or professional, from persons competent to judge the applicant’s potential to pursue graduate work successfully.
4. A one to two page statement of purpose.
5. Evidence of a minimum of two years of relevant work experience preferred.

With the exception of the GMAT, required materials listed above are to be uploaded into the Graduate College application. The MBA program does not require a separate application.

**Admission requirements include:**

1. Evidence (official transcript) of an undergraduate Grade Point Average (GPA) of 3.00, or higher, on a four-point scale.
2. Graduate Management Admission Test (GMAT) score of 550 or higher with each component over the 25th percentile. The test score should be reflective of both, verbal and quantitative aptitude. GMAT scores over five years old are not considered. The average score of accepted students over the last two years is about 600. The computer adaptive GMAT is offered on a continuous basis by appointment at one of approximately 400 locations throughout North America. For further information contact:

Graduate Management Admission Test

1-800-717-GMAT (4628)

website: www.mba.com
e-mail: GMATCandidateServicesAmericas@perason.com

Applicants with demonstrated potential, a strong undergraduate academic record, and a strong GMAT score, are admitted with graduate standing. Students may be considered for admission on a provisional basis. If their undergraduate academic record and/or GMAT score are not sufficiently strong to be considered for full graduate standing. Students with a GPA less than 3.00 but not lower than 2.75, OR a GMAT score less than 550 but not lower than 520, with each component over the 25th percentile, may be considered for provisional admission provided that the result of the GPA times 200 plus the GMAT score is not less than 1,150. A graduate provisional
The student must complete nine credit hours of required course work. The courses are approved in advance and are listed on the “Letter of Admission.” The student must complete this course work within the first two consecutive enrollment periods (excluding Summer Term) and earn individual grades of B (3.00) or above (B- is not acceptable) before any other additional course work may be taken. Failure to complete this course work in the allotted time, or any grades less than B, will result in cancellation of the student’s admission. Upon completion of the nine hours with grades of B or better, the Lee Business School will recommend to the Graduate College that the student be given graduate standing status. The Graduate College will then change the student’s status to graduate standing.

It is the applicant’s responsibility to provide satisfactory evidence of these skills. Prior to their first semester in the program, all admitted students are required to attend a noncredit orientation and skill refresher. This will include sessions on team building, research facilities, etc.

**Accelerated MBA Program**

MBA applicants may be considered for the accelerated MBA program. To be considered for the accelerated MBA program a candidate must meet each of the following requirements:

1. GMAT score greater than or equal to 600 (based upon the GMAT score used for admittance to the MBA Program)
2. GMAT verbal score greater than or equal to the 50th percentile
3. GMAT quantitative score greater than or equal to the 50th percentile
4. A business undergraduate degree or an undergraduate degree with a business minor from an AACSB accredited university with a minimum grade point average of 3.0

If the above requirements are met, then it is possible to waive some of the core classes from the MBA curriculum. Classes can be waived based upon undergraduate business classes taken if your business degree was granted in the last five years and a grade of B or better was earned in the relevant class. A maximum of 6 classes (18 credit hours) can be waived. A student must take a minimum of 30 credit hours of business classes at UNLV to earn a MBA degree. All class waivers must be approved by the Director of MBA Programs, who will consult with relevant department chairs as necessary.

The following classes can possibly be waived based upon successful completion of the undergraduate classes listed in parenthesis or their equivalents:

- MBA 702 - Statistical Analysis (ECO 262 or equivalent)
- MBA 706 - Law, Regulations and Ethical Issues (class or classes in business law and ethical issues in business)
- MBA 707 - Organizational Behavior (MGT 301 or equivalent)
- MBA 709 - Accounting for Managers (ACC 201 and ACC 202 or equivalents)
- MBA 710 - Applied Economic Analysis (ECO 302 or equivalent)
- MBA 711 - Managerial Finance (FIN 301 or equivalent)
- MBA 715 - Market Opportunity Analysis (MKT 301 or equivalent)
- MBA 720 - Supply Chain Management (SCM 473 or equivalent)
- MBA 730 - Information Systems for Management (IS 301 or equivalent)
- MBA 735 - International Business and Cross Cultural Perspectives (A general International Business class)

**Degree Requirements**

The MBA degree requires a minimum of 48 credit hours of approved course work, including the completion of the 30 credit hours of the Core Courses, three credit hours of Capstone, and 15 credit hours in the student’s concentration area.

Up to 15 graduate credit hours may be transferred if taken at AACSB accredited business schools within the last 5 years and a grade of B or better is achieved. This transfer credit is limited by the requirement that a student must take a minimum of 30 credit hours of
graduate classes from the UNLV Lee Business School to earn a MBA degree.

1. Core Courses - Total Credits: 30
All core courses have prerequisites of admission to the MBA program. All core courses are sequenced so students may acquire the tools and skill they need for success in their concentration areas.

- MBA 702 - Statistical Analysis
- MBA 706 - Law, Regulations and Ethical Issues
- MBA 707 - Organizational Behavior
- MBA 709 - Accounting for Managers
- MBA 710 - Applied Economic Analysis
- MBA 711 - Managerial Finance
- MBA 715 - Market Opportunity Analysis
- MBA 720 - Supply Chain Management
- MBA 730 - Information Systems for Management
- MBA 735 - International Business and Cross Cultural Perspectives

2. Concentration - Total Credits: 15
The 9-12 hours, depending on the concentration, of required courses must be taken in the concentration area of the student’s choice. The remaining 3-6 credit hours can be taken from the list of the elective courses or from the remaining three concentration courses. The concentration areas and all related course work require prior approval of the MBA Director.

3. Capstone Course - Total Credits: 3
- MBA 795 - Strategy Formation Processes
  This course is completed in the student's final semester.

4. Internship - Total Credits: 3
- MBA 741 - Internship is required for students without relevant business work experience. This requirement may be waived at the student's request and with a proof of relevant work experience. Credits / Units: 3

Description of Concentrations

- Finance
- Management Information Systems
- New Venture Management
- Services Marketing

Finance

This concentration provides the student with a working knowledge of financial management in solving the practical financial problems encountered in the management of the financial affairs of the firm. Typically, it involves decision problems associated with working capital, capital structure, capital budgeting, mergers, acquisitions and corporate restructuring. It also seeks to expand the student’s understanding of the current conceptual framework of investments in financial assets including stocks, bonds and derivative securities.

Required Courses:
- FIN 708 - Advance Corporate Finance
- FIN 710 - Investment Management
- FIN 712 - Financial Markets and Institutions
- Plus two Elective Courses

New Venture Management

This concentration is designed to prepare students for the prospects of managing new ventures. Courses required for this concentration develop student skills in the following areas critical to new venture success: opportunity creation recognition, evaluation and exploitation; resource gathering and leveraging through preemption, negotiation and incentivizing; and, management of uncertainties through intelligence gathering, planning and adaptation to change. Whether the student eventually becomes an independent entrepreneur or corporate project manager or venture capitalist, he or she will have a greater ability to address the challenges that contemporary businesses have in creating new value and sustaining it.

Required Courses:
- MGT 709 - New Venture Creation
Management Information Systems

This concentration is designed to prepare students for challenges and opportunities of information technology management. Courses for this concentration are developed to cover tools, concepts, and methodologies for preparing students to become effective MIS managers and be able to use the technology in innovative ways that create competitive advantage. The program will cover: computer software as applied in business processes; systems analysis and design; database concepts; strategies for corporate information systems; information systems project management; social and economic impacts of information technology; data communications and networks; electronic commerce; and security. Pedagogy involves lectures, labs, discussions, and selected readings and cases.

Required Courses:

- MIS 744 - Information Systems Planning & Strategy
- MIS 746 - Information Systems Project Management
- MIS 762 - Systems Analysis, Modeling and Design
- Choose one from the following two courses:
  - MIS 740 - Software Concepts
  - MIS 766 - Data Management
- Plus one Elective Course

Services Marketing

This concentration is designed to provide students with the skills and tools necessary to successfully market services, products, and ideas for profit and not-for-profit firms. The courses have been designed to provide students with state of the art information for marketing in today’s changing environment. A marketing concentration can be valuable to a wide range of people including professional managers, not-for-profit employees, professionals, and small business owners. Key topics include: competitive advantage, segmentation, relationship development, and competitive positioning.

Required Courses:

- MKT 711 - Strategic Marketing Management
- MKT 720 - Customer Satisfaction and Service Quality Measurement
- MKT 777 - Services Marketing
- Plus two Elective Courses
  - Elective Courses can be selected from courses in the other concentration areas or any 700 level course offered by the Lee Business School.

EMBA 701 Credits 2

Teamwork and Management Effectiveness

Examines why organizations increasingly adopting team-based work processes and circumstances where they are likely to be appropriate and effective. Mechanics of effective teamwork and team management. Includes effective team members and team leadership, organizational support for high performance teams, stages of team development and strategies for managing them, and issues pertaining to international teams. **Prerequisites** Admission to the Executive MBA Program and approval of the Dean's Office.

EMBA 702 Credits 2

Laws, Regulations and Ethics

Explores legal, regulatory and ethical issues which affect managers in their practice of business. Legal systems, philosophical approaches and practical applications. **Prerequisites** Admission to the Executive MBA Program and approval of the Dean's Office.

EMBA 703 Credits 2

Microeconomic Analysis for Business Decision Making

Uses economic analysis to understand crucial topics in business decision making, including: consumer behavior; supply and demand; choosing to input to minimize cost; product differentiation; firm behavior under different types of competition; pricing and advertising strategies; risk, uncertainty, and imperfect information; government regulation; labor issues; and
mergers. Prerequisites Admission to the Executive MBA Program and approval of the Dean's Office.

EMBA 704 Credits 2
Technology Innovation: Theory and Practice
This course provides an in-depth look into the potential impacts of existing and emerging information technologies on contemporary business models through lecture, case analysis, and interaction with industry guest speakers. Potential impacts for both new and existing businesses will be discussed. Prerequisites Admission to the Executive MBA Program and approval of the Dean's Office.

EMBA 705 Credits 2
Applied Statistics
Effective business research and decision making with the aid of statistical analysis. Hands-on experience with computer spreadsheet software. Covers how to find, manage, analyze, interpret, and effectively present actual business and economic data. Prerequisites Admission to the Executive MBA Program and approval of the Dean's Office.

EMBA 706 Credits 2
Organizational Theory: Strategy Implementation Processes
Effective implementation of organizational decisions and strategies. Draws on scholarly research in sociology, psychology, anthropology, and a wide variety of related social sciences. Executive-level overview of organization theory. Prerequisites Admission to the Executive MBA Program and approval of the Dean's Office.

EMBA 707 Credits 2
Financial Accounting for Managers
Examines process which determines economic impact of organization activities. Performance measurement, recording, and reporting. Focuses on methods and procedures that lend to the preparation of financial statements and reports to external audiences. Prerequisites Admission to the Executive MBA Program and approval of the Dean's Office.

EMBA 708 Credits 2
Global and Macroeconomic Environment for Business
Provides an understanding of macroeconomic conditions that impact firms operating in the global economy. Topics include aggregate demand and national income; business cycles; inflation; unemployment; interest rates; exchange rates; international trade in goods and capital; and fiscal and monetary government policies. Prerequisites Admission to the Executive MBA Program and approval of the Dean's Office.

EMBA 709 Credits 2
Organization Behavior
Important concepts and applications in management including motivation, leadership, group dynamics, organization design, decision making, strategic planning and organizational change. Special emphasis on analyzing leadership skills of others and improving leadership potential of participants. Prerequisites Admission to the Executive MBA Program and approval of the Dean's Office.

EMBA 710 Credits 2
Business Finance
Examines the role of financial management in creating firm value. Covers fundamental business finance topics and the application of basic finance concepts for decision making in a business environment. Taught from the perspective of a senior-level manager. Prerequisites Admission to the Executive MBA Program and approval of the Dean's Office.

EMBA 711 Credits 2
Managerial Accounting
Focus on the use and potential misuse of accounting data by managers. Provides a foundation for identifying and analyzing decision alternatives and evaluating success in accomplishing organizational goals. Prerequisites Admission to the Executive MBA Program and approval of the Dean's Office.

EMBA 712 Credits 2
Seminar in Financial Management
Covers major financial management issues pertaining to a firm's operations. Taught primarily through case discussions and use of spreadsheets in financial analysis. Prerequisites Admission to the Executive MBA Program and approval of the Dean's Office.

EMBA 713 Credits 2
Principles of Marketing Strategy
Designed to introduce executives to conceptual and analytical frameworks that inform the development and execution of marketing strategy. A blend of readings and case studies will be used to build fundamental knowledge of the discipline and simulate marketing strategy decision making. Prerequisites Admission to the Executive MBA Program and approval of the Dean's Office.
EMBA 714  Credits 3  
Management of Entrepreneurial Organizations  
Examines issues involved in developing and managing entrepreneurial organizations. Topics include: why some firms fail while others succeed; stages of growth and organization effectiveness; and management systems in an entrepreneurial context, such as strategic planning, organizational development, and leadership. Prerequisites Admission to the Executive MBA Program and approval of the Dean's Office.

EMBA 715  Credits 3  
Strategic Management: Business Strategy and Corporate Strategy  
Explores business strategies (cost leadership, differentiation, tacit collusion, and strategic alliances) and corporate strategies (vertical integration, diversification, merger and acquisition, and globalization strategies.) Economic theories of competition and cooperation. Includes case studies of firms which have successfully or unsuccessfully employed a variety of strategies. Prerequisites Admission to the Executive MBA Program and approval of the Dean's Office.

EMBA 716  Credits 3  
International Business  
Problems and opportunities of business in a global context. Examines international economic, institutional, cultural and legal differences and analyzes their impact on business decisions including: product design, production and marketing, human resources strategy; investment analysis; financial strategy and risk management. Prerequisites Admission to the Executive MBA Program and approval of the Dean's Office.

EMBA 717  Credits 2  
Negotiations and Conflict Resolution  
Examines the nature of conflict and the negotiation process as a tool for managing conflict. Includes preparing negotiations, negotiating strategies and tactics, organizing negotiating teams, coalition bargaining, the importance of individual difference variables, international issues, the role of third parties, and ethical issues. Prerequisites Admission to the Executive MBA Program and approval of the Dean's Office.

EMBA 718  Credits 2  
Executive Decision Making: Strategy Formation Processes  
Explores classic cases and texts on organizational decision-making processes in order to improve participants' capacities to contribute to the effective manufacturing of organizational decisions. Prerequisites Admission to the Executive MBA Program and approval of the Dean's Office.

EMBA 719  Credits 1  
Executive Assessment and Development  
Helps participants to be more capable of understanding and leading change. Includes framework of leadership competency grounded in paradoxical thinking. Leadership concepts presented. Leadership assessment completed for each participant. Prerequisites Admission to the Executive MBA Program and approval of the Dean's Office.

EMBA 720  Credits 2  
International Seminar  
Includes problems and environment of international business, which require integrative analysis of these problems. Under faculty supervision, students visit selected international enterprises operating outside the United States and produce a written analysis including specific recommendations. Prerequisites Admission to the Executive MBA Program and approval of the Dean's Office.

EMBA 723  Credits 2  
Applied Strategic Marketing  
Designed to give executives the opportunity to apply marketing concepts in an effort to analyze, initiate and change marketing actions. Provides the knowledge and tools needed to analyze marketing problems. Prerequisites EMBA 713

EMBA 725  Credits 3  
Corporate Risk Management  
This course will focus on the fundamentals of corporate risk management from a strategic decision-making perspective. The course emphasizes how exposures to strategic, operational, financial and pure risks affect the firm, and how risk exposures can be re-engineered to enhance shareholder value. Topics further include the major sources of risk, the measurement of risk exposures, methods, and strategies of managing and controlling risk. Prerequisites EMBA 715
MBA 702  
Credits 3  
Statistical Analysis  
Intensive seminar/workshop applying statistical analysis to topics and problems encountered by business managers. Presumes no previous exposure to statistics but moves rapidly to the mastery of statistical analysis tools available on spreadsheet software. Topics include descriptive statistics, hypothesis testing, analysis of variance, simple regression and multiple regression. **Prerequisites** Admission to MBA Program or approval of the Director of MBA Programs.

MBA 706  
Credits 3  
Law, Regulations and Ethical Issues  
Deals with legal, regulatory and ethical environments of business. Provides foundation for recognizing and analyzing legal and ethical issues facing managers. Case studies applying both legal and ethical analysis featured. **Prerequisites** Admission to MBA Program or approval of the Director of MBA Programs.

MBA 707  
Credits 3  
Organizational Behavior  
Overview of research and theory on organizational behavior with emphasis on the skills required for managerial effectiveness in modern complex organizations including motivating and leading employees, developing effective teams, and managerial communication responsibilities. **Prerequisites** Admission to MBA Program or approval of the Director of MBA Programs.

MBA 709  
Credits 3  
Accounting for Managers  
Fundamentals of financial and managerial accounting. Topics include accounting’s conceptual framework, preparation and analysis of financial statements, current topics in financial reporting, ethical and legal responsibilities in financial reporting, cost-volume-profit analysis, tactical decision making, budgeting and accounting for management control. **Prerequisites** Admission to MBA Program or approval of the Director of MBA Programs.

MBA 710  
Credits 3  
Applied Economic Analysis  
Intensive application of the principles of microeconomic theory to business management problems. Presumes no previous knowledge of economics but moves rapidly to a thorough understanding of the tools of price theory. Topics include scarcity, choice, supply, demand, production, cost, competition, monopoly, present value and decision-making under risk. **Prerequisites** Admission to MBA Program or approval of the Director of MBA Programs.

MBA 711  
Credits 3  
Managerial Finance  
Focuses on corporate financial management, including cash flow planning, capital budgeting, security valuation, and financing decisions. Includes the concepts of market efficiency and optimal capital structure. Provides useful set of tools to improve the efficiency of business and personal financial decisions. **Prerequisites** MBA 709 admission to M.B.A. program, or approval of the Director of MBA Programs.

MBA 715  
Credits 3  
Market Opportunity Analysis  
Theory and practice of marketing fundamentals applied to the market opportunity analysis. Focus on the marketing concept, planning, internal analysis, industry analysis, customer analysis, segmentation, competitive strategies and strategy formulation, product and pricing decision, positioning, forecasting, and profitability of opportunities. **Prerequisites** Admission to the MBA program or approval of the Director of MBA Programs.

MBA 720  
Credits 3  
Supply Chain Management  
Study of the integration of the key value-adding activities across a network of firms that produce raw materials, transform them into intermediate and then end products, and finally distribute these to end users. Topics include purchasing and supplier relationships, inventory and quality management, distribution, customer relationship management, service response logistics, and future trends in supply chain management. **Prerequisites** MBA 702, 709, 710, 711 or approval of the Director of MBA Programs.

MBA 730  
Credits 3  
Information Systems for Management  
Overview of contemporary information systems and technology issues. Technical, behavioral, organizational and competitive perspectives reviewed. Issues related to impact of information systems on organizational processes and work practices. Information systems strategies, technology implementation and systems analysis and design. **Prerequisites** MBA 702, 709, 710, 711, or admission to the MSIS program or approval of the Director of MBA Programs.
MBA 735 Credits 3
International Business and Cross Cultural Perspectives
Problems and opportunities of business in a global context. Examines economic, institutional, cultural, and legal issues faced by companies involved in international business and analyzes their effect on business decisions including: product design, production and marketing, human resources strategy, investment analysis, financial strategy, and risk management. Prerequisites MBA 702, 709, 710, 711, or approval of the Director of MBA Programs.

MBA 741 Credits 3
Internship
Supervised practical experience with a participating local enterprise or government agency, culminating in a written report. Prerequisites Completion of MBA Core Curriculum and approval of the Director of MBA Programs, minimum GPA 3.0.

MBA 751 Credits 1 - 3
Independent Study
Independent study of a topic relevant to the practice of business under supervision of a faculty advisor. Prerequisites MBA 702, 709, 710, 711 and approval of Associate Dean for Graduate Programs.

MBA 795 Credits 3
Strategy Formation Processes
Integrates knowledge from specialized functional courses into a CEO perspective. Moves beyond a repertoire of generic strategies toward the formation of unique, firm specific strategies. Builds effective strategies in complex organizational contexts. Prerequisites To be taken during the student's final semester.
Economics

Chair

Miller, Stephen M.
(2001), Professor, B.S., Purdue University; M.A., Ph.D., SUNY at Buffalo.

Graduate Coordinator

Chen, Lein-Lein
(1993), Professor; B.S., M.S., Florida International University; Ph.D., University of Miami.

Graduate Faculty

Assane, Djeto
(1998), Associate Professor; B.A., University of Abidjan; M.A., University of New Mexico; Ph.D., University of Colorado.

Brown, Stephen P.A.
(2010), Professor; B.S., California Polytechnic State University; M.A., Ph.D., University of Maryland

Carroll, Thomas
(1986), Professor; A.B., Miami University; M.A., Ph.D., Syracuse University.

Daneshvary, Nasser
(1990), Professor; B.S., Ghazvin College of Economics and Social Science; M.A., Western Illinois University; Ph.D., University of Tennessee.

Eren, Ozkan
(2007), Assistant Professor; B.A., Marmara University; M.A., Ph.D., Southern Methodist University.

Li, Herman
(2011), Assistant Professor; B.A., University of Pennsylvania; Ph.D., Penn State University

Malamud, Bernard
(1968), Professor; B.S.E.E., Polytechnic Institute of Brooklyn; M.S.I.A., Carnegie-Mellon University; Ph.D., New School for Social Research.

Riddel, Mary
(1999), Professor; B.A., University of Colorado, Boulder; M.S., Ph.D., Colorado State University, Ft. Collins.

Robinson, William J.
(1980), Assistant Professor; B.A., University of Northern Colorado; M.A., Ph.D., University of Colorado, Boulder.

Schlottmann, Alan
(2000), Professor; B.A., M.A., Ph.D., Washington University.

Tra, Constant
(2007), Assistant Professor; B.A. California State University, Chico; M.S., Ph.D., University of Maryland.

Waddoups, C. Jeffrey
(1989), Professor; B.A., Ph.D., University of Utah.

Wimmer, Bradley
(1998), Professor; B.A., Coe College; Ph.D., University of Kentucky.
Professors Emeriti

Clauretie, Terrence M
(1988), Emeritus Professor; B.A. Stonehill College; Ph.D. Washington State University.

Hoppe, Hans-Herman
(1986), Emeritus Professor; M.A., Ph.D., Geothe-University, Frankfurt, West Germany.

Karstensson, Lewis
(1979), Emeritus Associate Professor; B.A., Humboldt State College; M.A., Ph.D., Ohio University.

Ray, Clarence G.
(1971-2000), Emeritus Professor; B.S., College of Charleston; M.A., Ph.D., University of South Carolina.

Simmons, Andrew
(1960-1994), Emeritus Professor; B.S., University of London; M.A., Michigan State University; Ph.D., University of London.

White, William T.
(1967-1986), Emeritus Professor; B.S., University of Arizona; M.S., Columbia University; Ph.D., Georgetown University.

Programs

- Economics M.A.
- Dual Master of Arts in Economics & Master of Science in Mathematical Sciences

Dual Master of Arts in Economics & Master of Science in Mathematical Sciences

The dual Master of Arts in Economics and Master of Science in Mathematical Sciences combines economic reasoning with mathematical methods. The program attracts students with focused career choices that require core competence in analytical skills and mathematical methods. It also prepares students with interests in pursuing a Ph.D. in economics with substantial quantitative skills, or a Ph.D. in Mathematics with economic applications. We believe that the analytical nature of the program will attract high quality undergraduates.

The MA in Economics portion of the dual degree advances students’ knowledge in macro- and microeconomic theory. It also provides students with econometrics as well as developing their communication skills. The MS in Mathematical Sciences portion of the dual degree is designed to equip graduate students with a solid foundation of mathematics, statistics, and real-world applications.

Admission Requirements

The Departments of Economics and Mathematical Sciences welcome applications from college graduates in all fields. Applicants must satisfy the minimum requirement of the Graduate College, the MA in Economics program, and the MS in Mathematics program.

Admission to the M.A. Program in Economics

1. Meet the general requirements for admission to graduate instruction at the University of Nevada, Las Vegas, as described by the Graduate College.

2. Complete the prerequisite preparation in intermediate microeconomic theory (ECON-302), intermediate macroeconomic theory (ECON-303), and statistical analysis (ECON-262), plus at least one semester of calculus. Students interested in the
3. Achieve a score of 2100 or higher on the following formula: 200 times the grade point average (computed on a 4.00 scale) plus 1.5 times the combined score on the quantitative and verbal portion of the Graduate Record Exam. GRE scores for tests taken after August 1, 2011 may be adjusted accordingly to reflect the new GRE format and scoring rubric. Students may substitute the GMAT score for the GRE, in which case the GMAT score will be multiplied by 3 and added to 200 times the grade point average.

4. International applicants from countries where English is not the native language, or who did not receive a degree from an institution where English is the language of instruction, must show competency in English. The Graduate College requires a score of 550 on the written, or 213 on the computerized, version of the Test of English as a Foreign Language (TOEFL) or 85 on the Michigan Test. Credentials not written in English must be accompanied by a certified English translation, as described by the Graduate College.

5. International applicants must submit a completed Certificate of Finance to the Office of International Students & Scholars. In addition, international applicants must satisfy the financial eligibility requirements before an I-20 will be issued.

6. Complete the Graduate College application online and submit a nonrefundable admission application fee. Mail official transcripts to the Graduate College and Economics Department, respectively. Send two letters of recommendation, letter of intent as well as the official test score, GRE or GMAT to the Economics Department.

Admission to the M.S. Program in Mathematical Sciences

It requires that an applicant has a bachelor’s degree with a minimum GPA of 2.75 for all undergraduate work or a minimum GPA of 3.00 for the last two years of undergraduate work, and completed at least 18 credits of upper-division mathematics or statistics courses beyond calculus. If applicable, international applicants must submit an official TOEFL score (minimum score of 79 for the IBT, 213 for the computer test, or 550 for the paper test).

To apply for admission to the M.S. Program, applicants must submit application materials to both the Graduate College and the Department of Mathematical Sciences. Firstly, applicants must submit to the Graduate College the following materials: a completed application form; the official transcripts from all colleges and universities the student has attended; and the official TOEFL score if applicable. Secondly, applicants must submit to the Department of Mathematical Sciences the following materials: copies of all official transcripts sent to the Graduate College; at least two letters of recommendation from persons familiar with the applicant’s academic record and potential for advanced study in mathematical sciences; a completed application form for Graduate Assistantship, if interested; and a statement of purpose describing the aim in applying for graduate study, the particular area of specialization within the mathematical sciences (if known), and any additional information that may aid the selection committee in evaluating the applicant’s preparation and aptitude for graduate study.

Degree Requirements

A minimum of 51 credits of graduate work is required for the Dual M.S. and M.A. Program in Mathematics and Economics, including at least 21 credits of course work in mathematics and at least 21 credits of course work in economics. In addition, 15 of 21 credits of mathematics course work must be at
the 700 level, and 18 of 21 credits of economics courses must be at 700 level. A minimum GPA of 3.00 is required for the graduate course work that is part of the degree program. The following specific requirements must be met:

1. Core Requirements:

**Economics Core Requirements: 18 credits**

ECO 701 - Macroeconomic Theory  
ECO 702 - Microeconomic Theory  
ECO 740 - Mathematical Economics  
ECO 770 - Econometrics I, Statistical Modeling  
ECO 772 - Econometrics II  
ECO 793 - Seminar in Economic Research

**Mathematics Core Requirements: 18 credits**

MAT 657 - Introduction to Real Analysis I  
MAT 663 - Advanced Matrix Theory and Applications  
MAT 707 - Real Analysis I  
MAT 709 - Complex Function Theory I  
MAT 723 - Advanced Ordinary Differential Equations I  
MAT 771 - Applied Analysis I  
STA 761 - Regression Analysis I  
STA 762 - Regression Analysis II  
STA 767 - Mathematical Statistics I  
STA 768 - Mathematical Statistics II

2. Three credits of MAT or STA course work at the 700 level in a field of special interest to the student, excluding those credits used to meet the Mathematics Core Requirements.

3. Three credits of ECO course work at the 600 or 700 level in a field of special interest to the student, excluding those credits used to meet the Economics Core Requirements.

4. Six credits for the thesis in MAT 791 or STA 791. Students are required to defend a thesis on subjects in the interdisciplinary area of Mathematics and Economics. The committee chair and two other committee members must be from the Mathematics Department. The thesis committee must be composed at minimum of two graduate faculty members from the Economics Department.

5. Three credits for a professional paper, ECO 794. The committee for the professional paper must be composed of a chair and two committee members from the Economics Department and one graduate faculty member from the Mathematics Department.

**Economics M.A.**

The Master of Arts degree in Economics provides students with advanced training in applied economics. The program trains students for careers in business and government, and prepares students who desire to continue their studies in economics or finance at the doctoral level. Students in the MA program will obtain a solid foundation in microeconomic and macroeconomic theory, receive training in advanced econometric techniques, and develop their communication skills through writing and presentation. The program also allows students the possibility of pursuing interdisciplinary studies by taking courses in related disciplines such as finance or marketing. An internship program provides opportunities for students to obtain valuable work experience. MA graduates in economics possess the skills that prove attractive for different employers—government agencies, marketing research firms, corporate research and financial departments, and consulting firms. The department welcomes both full and part-time students. Ambitious students can complete the program in one year. Please see our web site for more information http://business.unlv.edu/economics/.

Formal preparation for most applicants seeking the Master of Arts degree requires intermediate microeconomic theory and macroeconomic theory. In addition, some form of quantitative preparation, such as calculus and intermediate statistics, is required. As noted below, students must meet general requirements for admission to the Graduate College of the University of Nevada, Las Vegas. The Department of Economics offers graduate courses during evening hours convenient for both working and full-time students.
Admission Requirements

The first step in the application process requires the submission of relevant application forms, fees, letters of recommendation, official transcripts, test results, and assistantship applications to the Graduate College as outlined in this catalog. International students should check with the Graduate College for current deadlines. The Graduate College requires international students to complete the TOEFL with a minimum score of 550 (written) or 213 (computerized) or show comparable evidence of competence in English.

Students may begin course work in economics in the following classifications: full graduate standing or graduate provisional. Admission to full graduate standing requires that students must:

1. Meet the general requirements for admission to graduate instruction at the University of Nevada, Las Vegas.
2. Complete the prerequisite preparation in microeconomic theory, macroeconomic theory, and quantitative economics. The theory preparation may be satisfied by successfully completing ECON 302 and ECON 303. Completing ECON 262 and MATH 181 may satisfy the quantitative preparation. These courses, however, do not apply toward the 30 hours of graduate course work required for the Master of Arts degree. In addition, students seeking to meet prerequisite requirements with undergraduate courses may need to take a placement exam to demonstrate competence.
3. Achieve score of 2100 or higher on the formula: 200 times grade point average (computed on a 4.00 scale) plus the product of 1.5 and the combined scores on the quantitative and verbal portions of the Graduate Record Exam. GRE scores for tests taken after August 1, 2011 may be adjusted accordingly to reflect the new GRE format and scoring rubric. Students may substitute the GMAT score for the GRE, in which case the GMAT score will be multiplied by 3 and added to 200 times the grade point average.

Admission to the Advanced Program for accomplished UNLV undergraduates *

- Receiving at least a B in MA classes they complete as an undergraduate
- Satisfactory completion of Graduate College admission requirements.

*Accomplished UNLV undergraduates must meet all of the following criteria to be eligible for the Advanced Program

- Senior standing
- Minimum of 3.0 GPA
- Completion of the following courses with a minimum of 3.5 GPA and no grade lower than B: ECON 262 or ECON 441; ECON 302; ECON 303 and MATH 181.
- Department chair or graduate coordinator’s recommendation.
- Submission of two letters of recommendation, a completed Enrollment Request form to the Economics department no less than two weeks before the beginning of the semester for which they would like to register for graduate courses

Students falling short of the requirements for admission with full graduate standing may be admitted as graduate provisional students. Students admitted with graduate provisional status must successfully complete the courses, possibly including any deficiencies, designated by the graduate coordinator, with an average of 3.33 or better within the first year of enrollment to qualify for admission with full graduate standing.

Degree Requirements

Degree requirements may exceed (at the option of the student’s advisor), but must not be less than the minimum outlined below. The advisor and/or the
coordinator of graduate studies recommend specific course requirements for this degree.

Elective course work to complete the thirty-hour requirement must include two additional courses in economics and may include up to two courses in a related discipline, subject to the approval of the graduate coordinator. The internship requirement may be waived by the department upon evidence of appropriate experience. As previously noted, all noneconomic electives must come from the same department and the student must meet the prerequisites for these courses.

Students not making satisfactory progress toward the degree are subject to dismissal. A student who earns two grades of C, D, or F in the first four graduate courses, or who receives the third grade of C, D, or F in a graduate course will be dropped from the M.A. program. A minimum 3.00 average is required to earn the Master of Arts degree.

To qualify for graduation, each student must present an empirical research paper or a thesis. The research paper will be presented to students and faculty at the department research seminar. The source of this paper is a project in the professional paper course (ECO 794 ). In the case of a thesis, the student will register for six hours of thesis credit in lieu of course work outside of economics and Professional Paper (ECO 794 ). (See Academic Policy section for detailed requirements concerning presentation of the thesis.) It should be noted that a student taking four courses a semester could finish all course work in one year by adding an elective course in the fall and in the spring semesters and completing the research paper in the summer.

**Required Courses**

- Completion of a minimum of 30 credit hours, of which, at least 24 credits must be taken in 700-level courses. The core of the economics MA consists of 18 credits:

  - ECO 740 - Mathematical Economics
  - ECO 701 - Macroeconomic Theory

- ECO 702 - Microeconomic Theory
- ECO 770 - Econometrics I, Statistical Modeling
- ECO 772 - Econometrics II
- ECO 793 - Seminar in Economic Research

- Satisfaction of the program’s internship requirement—ECO 784 , Internship. The internship requirement may be waived by the department upon evidence of appropriate experience, but the credits must be earned in other coursework.
- Completion and defense of a empirical research paper (ECO 794 ), or completion and defense of master’s Thesis (ECO 791 ).
- Elective course work to complete the 30 credit hours of degree requirements must include at least two additional courses in economics and may take one course in a related discipline, subject to the approval of the graduate coordinator.
- A minimum of 3.00 grade-point average is required to earn the M.A. in economics. Students not making satisfactory progress toward the degree are subject to dismissal. A student who earns two grades below a B- in the first four graduate courses, or who receives the third grade below a B- in a graduate course will be dropped from the MA program.

**Advanced Program**

The Advanced Program allows accomplished UNLV undergraduate students to complete the Economics MA degree with a total of 24 credits. Qualified students who are planning to enroll in the MA economics program can substitute two MA courses from the core (3 credits each) for the respective undergraduate requirements. Students enrolled in the Advanced Program are required to enroll in ECO 740 , Mathematical Economics and one of the following courses:
Approved graduate credits taken by Advanced-Program students during their senior year will be counted towards their M.A. program’s core requirements, provided the student receives grades of B, or better in core classes.

Advanced-Program students must meet department’s elective requirements as well as successful completion and defense of an empirical research paper (ECO 794), or the completion and defense of master’s thesis (ECO 791). Additional course work to complete the 24 credit hours must include two additional courses in economics and may include one course in a related discipline, subject to the approval of the graduate coordinator.

- ECO 740 - Mathematical Economics
- ECO 701 - Macroeconomic Theory
- ECO 702 - Microeconomic Theory
- ECO 770 - Econometrics I, Statistical Modeling
- ECO 772 - Econometrics II
- ECO 793 - Seminar in Economic Research

ECO 602
Topics in Microeconomics
This undergraduate course has been approved for use in graduate programs. Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the UNLV Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 600-level normally requires additional work.

ECO 651
Public Finance
This undergraduate course has been approved for use in graduate programs. Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the UNLV Undergraduate Catalog under the corresponding 400 number.

ECO 655
Economics of Industrial Organization
This undergraduate course has been approved for use in graduate programs. Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the UNLV Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 600-level normally requires additional work.

ECO 701
Credits 3
Macroeconomic Theory
Investigates the behavior of the main economic aggregates: output, employment, consumption, savings, investment, interest rates, and price level. Explores and assesses the major theories of the determinants and interrelations among these variables. Also analyzes the impact of various policies on the macroeconomy. Prerequisites ECO 740

ECO 702
Credits 3
Microeconomic Theory
Uses quantitative and graphic techniques to analyze household and firm decisions as a basis for market interactions. Topics include the determinants of demand and supply, price and output determination under perfect and imperfect competition, economic efficiency, income distribution, general equilibrium, and economic welfare. Prerequisites Graduate standing. Corequisite ECO 740

ECO 707
Credits 3
Environmental and Natural Resource Economics
Relationship between environmental quality and natural resources, using economic analysis. Identifies solutions to economic problems arising from resource scarcity and use. Economic growth, externalities. Prerequisites Graduate standing.

ECO 709
Credits 3
Regional Economic Analysis
Theoretical and empirical analysis of the regional component of economic activity. Examination of location factors, regional and urban development theory, and regional/urban structure and growth theory. Explores regional analysis and forecasting. Prerequisites Graduate standing.

ECO 720
Credits 3
Health Economics and Policy
Analysis of the U.S. health care markets. Examination of physician, hospital, and insurance markets. Exploration of the role of regulation and
technology. Includes international comparisons. **Prerequisites** Graduate standing.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO 732</td>
<td>3</td>
<td><strong>Political Economy and Economic Policy</strong>&lt;br&gt;Role of markets, organizations, and governments in economic policy, including topics such as collective decision making, efficient and equitable social choice, regulation, and behavior of bureaucracies. <strong>Prerequisites</strong> Graduate standing in the MPA, EPS, or Economics program or consent of instructor.</td>
</tr>
<tr>
<td>ECO 733</td>
<td>3</td>
<td><strong>Economic History of Europe</strong>&lt;br&gt;Economic and social background of European national and international development with emphasis upon the period 1500 to present.</td>
</tr>
<tr>
<td>ECO 734</td>
<td>3</td>
<td><strong>Economic History of the United States</strong>&lt;br&gt;Economic and social background of the American economy from the colonial period to the present. <strong>Prerequisites</strong> ECO 301 and 302 or equivalent.</td>
</tr>
<tr>
<td>ECO 740</td>
<td>3</td>
<td><strong>Mathematical Economics</strong>&lt;br&gt;Application of mathematics to economic analysis. <strong>Prerequisites</strong> Graduate standing or consent of instructor.</td>
</tr>
<tr>
<td>ECO 742</td>
<td>3</td>
<td><strong>History of Economic Thought</strong>&lt;br&gt;Criticism and evaluation of economic thought from ancient to modern times; main emphasis devoted to the development of economic thought since Adam Smith. <strong>Prerequisites</strong> Graduate standing.</td>
</tr>
<tr>
<td>ECO 743</td>
<td>3</td>
<td><strong>Economic Fluctuations</strong>&lt;br&gt;Analysis of economic fluctuations from classical times to the present. Intensive study of factors which contribute to cyclical waves. Evaluation of selected economic indicators, business forecasting, and stabilization techniques. <strong>Prerequisites</strong> Graduate standing.</td>
</tr>
<tr>
<td>ECO 750</td>
<td>3</td>
<td><strong>International Monetary Economics</strong>&lt;br&gt;Theories, institutions, and policies of international monetary economics and their impact on macroeconomic performance. Topics include international money markets, monetary and exchange rate policies, policy effectiveness under different regimes, the role of expectations, and the effect of capital mobility. <strong>Prerequisites</strong> Graduate standing.</td>
</tr>
<tr>
<td>ECO 760</td>
<td>3</td>
<td><strong>International Trade</strong>&lt;br&gt;Study of international trade and international commercial policies. Topics include theories and policies related to international movement of goods, services, and factors of production. <strong>Prerequisites</strong> Graduate standing.</td>
</tr>
<tr>
<td>ECO 763</td>
<td>3</td>
<td><strong>Economics and the Law</strong>&lt;br&gt;Application of economic analysis to the topics confronted in litigation. Topics include: microeconomic theory, property rights, contracts, torts, discrimination, eminent domain, copyrights, patents, antitrust, and criminal law. <strong>Prerequisites</strong> Graduate standing.</td>
</tr>
<tr>
<td>ECO 765</td>
<td>3</td>
<td><strong>Labor Economics</strong>&lt;br&gt;Examination of competing theories of labor market behavior. Topics include theories of labor supply, labor demand, wage determination, unemployment, discrimination and the impact of unions and government institutions on labor market outcomes. <strong>Prerequisites</strong> Graduate standing.</td>
</tr>
<tr>
<td>ECO 770</td>
<td>3</td>
<td><strong>Econometrics I, Statistical Modeling</strong>&lt;br&gt;The course reviews fundamentals of mathematical statistics, that are used in econometric analysis. It integrates mathematical models and statistical techniques to perform regression analysis of cross-sectional data with a policy focus. Topics include empirical model building, estimation, and specification and data problems. <strong>Notes</strong> Involves extensive use of computer software packages. <strong>Prerequisites</strong> Graduate standing and a previous statistics course or consent of instructor.</td>
</tr>
<tr>
<td>ECO 772</td>
<td>3</td>
<td><strong>Econometrics II</strong>&lt;br&gt;Building on econometrics I, this course extends econometric/quantitative skills in the estimation and testing of economic theory. Topics include instrumental variables and two stage least squares estimations, simultaneous equation models, qualitative dependent variable models and sample selection corrections, measurement error issues, introduction to time series and panel data methods. <strong>Prerequisites</strong> Graduate standing, ECO 740, and ECO 770.</td>
</tr>
</tbody>
</table>
ECO 773  Credits 3  
**Business and Economic Forecasting**  
Evaluation of the uses and misuses of forecasting techniques in economics, business and governmental decision making. Exploration of techniques of data handling including exponential smoothing, seasonal and cyclical adjustments. Use of simple and multiple regression models and advanced econometric techniques in forecasting. Nature and estimation of autoregressive moving average (ARIMA) models.  
**Prerequisites** Graduate standing and ECO 770.

ECO 780  Credits 3  
**Seminar in Economic Theory and Policy**  
Designed for the study of some specialized topic in economic theory or policy.  
**Prerequisites** ECO 702, and ECO 770.

ECO 784  Credits 3  
**Internship**  
Internship with business firms, non-profit organizations or government agencies. Project report and internship conference required.  
**Grading** Students will receive S/F for final grade.  
**Prerequisites** ECO 702, ECO 740, ECO 770, ECO 793.  
**Corequisite** ECO 772

ECO 788  Credits 1  
**Topics in Economics**  
Topics of interest to managers offered on a rotating basis. Possible topics include environmental economics, health economics, international economics, labor economics, regional economics, the economics of education, the economics of regulation, and economic forecasting.  
**Notes** May be repeated to a maximum of three credits.  
**Prerequisites** ECO 301, 302, and 362 or equivalent. May not be taken for credit toward M.A. degree in Economics.

ECO 790  Credits 1 – 6  
**Independent Study**  
Directed research course under the supervision of a member of the graduate faculty, culminating in a written paper.  
**Prerequisites** Consent of Department Chair or Graduate Coordinator.

ECO 791  Credits 3 – 6  
**Thesis**  
**Notes** May be repeated but only six credits will be applied to the student's program.  
**Grading** S/F grading only.

ECO 793  Credits 1 – 3

**Seminar in Economic Research**  
Provides students with hands-on training in empirical modeling, promotes critical thinking, teaches use of tool kit of research techniques and reinforces the student's understanding of economic concepts relating to economics research.  
**Prerequisites** Graduate standing in Economics.

ECO 794  Credits 3  
**Professional Paper**  
Directed research under the supervision of a member of the graduate faculty, culminating in a professional paper that will be presented to the student's professional-paper committee. Students will participate in a weekly seminar, presenting results of their research. Students who do not complete a professional paper will receive a temporary grade of "X".  
**Grading** S/F course grading only.  
**Prerequisites** ECO 701, ECO 702, ECO 740, ECO 772, ECO 793
Finance

The Department of Finance offers majors in both finance and real estate, as well as minors in finance, real estate, risk management and insurance, and business law. The finance discipline can be classified into three areas: corporate finance, investments, and finance markets and institutions. This business field is for students who want to understand the financial implications inherent in virtually any business decision. The real estate majors are exposed to both the theory and practice in real estate. Emphases are placed on investment analysis of real estate, financing issues of real estate, and real estate valuation.

We prepare our students in finance or real estate major for successful careers in corporate management, depository institutions, investment management, financial services, and real estate. The finance faculty has a diverse range of professional and research interests to enrich the student's classroom experience. Please refer to individual faculty web links for specific information.

Program

- Finance Graduate Certificate

Finance Graduate Certificate

The Finance Graduate Certification Program is designed to offer students the opportunity to gain a strong knowledge base in the area of Finance. Possible prospective students include those with a non-business undergraduate degree and those with a business degree in an area of business other than Finance. This Program essentially allows students to take a short, focused graduate program in the area of Finance. This Program is aimed at professionals that currently work in a Finance-related field looking to enhance their Finance knowledge, or for professionals contemplating a career shift to a Finance-related field. Profiles of potential students include: (1) An employee of a financial services company whose educational background is in an area other than Finance and who could benefit from some more formal Finance training; (2) An employee of a financial services company looking for continuing education classes demanded for a professional license or credential; (3) Someone currently employed in an area other than Finance that desires to update their knowledge portfolio for a career change; (4) Someone personally interested in having a better understanding of the many Finance issues that directly affect their lives.

Admission Requirements

Admission requirements include an undergraduate degree with a GPA of 3.00 or higher, and either relevant work experience or a GMAT of 550 or higher. Relevant work experience is a minimum of 3 years’ experience in a relevant finance-related position. The determination of what is considered relevant work experience will be made by the Department of Finance Certificate Program Administrator.

If desired, upon successful completion of the Finance Certification Program, students may apply for admittance into the UNLV MBA. General admission requirements for the UNLV Evening MBA Program include: an undergraduate degree with a GPA of 3.00 or higher and a Graduate Management Admission Test (GMAT) score of 550 or higher.

Certificate Requirements

The Finance Graduate Certificate Program is a 4 course, 12 credit hour program. The Finance Graduate Certification Program consists of one required class: MBA 711 - Managerial Finance. With appropriate background the Certificate Student may substitute an elective Finance class for MBA 711. What qualifies as an appropriate background will be determined by the Department of Finance Certificate Program Administrator. An example of an appropriate background is having an undergraduate degree in Finance.
MBA 709 - Accounting for Managers and MBA 710 - Applied Economic Analysis are prerequisites for MBA 711 and can be waived with equivalent course work.

Equivalent course work for MBA 711 - Accounting Management is the completion of ACC 201 - Financial Accounting and ACC 202 - Managerial Accounting (or their equivalents) with a B average or better (B- grades are not acceptable). Equivalent course work for MBA 710 - Applied Economic Analysis is the completion of ECON 261 - Principles of Statistics I and ECON 262 - Principles of Statistics II (or their equivalents) with a B average or better (B- grades are not acceptable).

Program students then choose 3 of the available 700-level Finance classes. Currently, 5 classes are available:

- FIN 708 - Advance Corporate Finance
- FIN 710 - Investment Management
- FIN 712 - Financial Markets and Institutions
- FIN 715 - Portfolio Management
  Prerequisite: FIN 710
- FIN 740 - Risk Management

Students must have a minimum of a 3.0 GPA in the Program to receive the Finance Graduate Certificate.

FIN 708 - Advance Corporate Finance
Credits 3

Studies major decision-making areas of managerial finance and some selected topics in financial theory. Emphasis on the application of the theory and practice of business asset management, financing choice, capital structure, cost of capital, and dividend policy. Current topics, such as corporate acquisitions, restructuring, and underwriting covered as appropriate. Prerequisites Completion of the core MBA curriculum or approval of the Director of MBA Programs.

FIN 709 - Applied topics in Finance
Credits 3

This course focuses on the application of theory in finance through some combination of case analysis, the use of spreadsheets to assist in financial analysis and simulations. Topics covered may include capital budgeting, cost of capital, capital structure, risk analysis, financial statement analysis, options, and mergers and acquisitions. Prerequisites MBA 711

FIN 710 - Investment Management
Credits 3

Theoretical and practical analyses of investment environment and process. Focuses on characteristics, valuation, and management of various financial instruments, such as common stock, corporate bonds, options, and futures. Students learn how to establish appropriate investment objectives, develop optimal portfolio strategies, estimate risk-return trade-offs, and evaluate investment performance. Prerequisites Completion of the core MBA curriculum or approval of the Director of MBA Programs.

FIN 712 - Financial Markets and Institutions
Credits 3

Comparative study of the diverse financial instruments and intermediaries existing in today's financial sector. Topics include: the structure of interest rates, relative costs and benefits of each instrument, financial innovation and financial “engineering,” the role of banks, thrifts and other intermediaries, and current and future trends in the financial sector. Prerequisites Completion of the core MBA curriculum or approval of the Director of MBA Programs.

FIN 715 - Portfolio Management
Credits 3

Strategies investors employ to meet alternative investment objectives. Asset allocation decisions and the management of risk and return emphasized using various quantitative approaches to determine portfolio optimization and asset market equilibrium. Full spectrum of portfolio management issues considered across all classes securities, including equity, fixed-income, and derivative securities. Prerequisites Completion of the core MBA curriculum and FIN 710 or approval of the Director of MBA Programs.
FIN 740  Credits 3
Risk Management
Applies risk management process as an integrated approach to financial, credit and insurable risks.
Financial perspective on the corporate risk management function emphasized, using the financial tools of risk.
Management

Our mission is to create an approach that blends research and teaching into a life-long process of advancement and learning for faculty, students, and community interests. This integration will foster the ongoing development of our course materials and teaching approaches thereby creating a generation of students not only prepared to be leaders, but also provided with challenging career paths and managerial opportunities. We will strive to maintain quality and flexibility in an evolving environment through a focus on leading change, globalization, managing technology, and entrepreneurship.

Programs

- Graduate Certificate in Management
- New Venture Management Graduate Certificate

Graduate Certificate in Management

The Graduate Certificate in Management (GCM) will be comprised of graduate classes currently offered through the MBA curriculum. The Graduate Certificate is designed for those students wishing to gain knowledge or update their knowledge in the specific area of Management. The Graduate Certificate is not a degree program and completion of this program indicates an expertise in a narrower specialty, not general expertise in all areas of business. Moreover, while a concentration in New Venture Management exists in the MBA, a concentration in General Management does not.

Admission Requirements

Admission requirements include an undergraduate degree with a GPA of 3.00 or higher, and either relevant work experience or a GMAT of 550 or higher. Relevant work experience is a minimum of 3 years’ experience in a relevant management-related position. The determination of what is considered relevant work experience will be made by the Coordinator of Non Degree Programs for the College of Business.

If desired, upon successful completion of the Graduate Certificate in Management, students may apply for admittance into the UNLV MBA. General admission requirements for the UNLV Evening MBA Program include: an undergraduate degree with a GPA of 3.00 or higher and a Graduate Management Admission Test (GMAT) score of 550 or higher.

Certificate Requirements

The Graduate Certificate in Management (GCM) is a 5 course, 15 credit hour program, comprising:

- MBA 706 - Law, Regulations and Ethical Issues
- MBA 707 - Organizational Behavior
- MGT 710 - New Venture Feasibility
- MGT 711 - Seminar in Negotiation
- MGT 712 - Change Management

There are no pre-requisites for MBA 706 and MBA 707, however, the remaining three courses require the completion of the MBA Core or admission to the Graduate Certificate in Management as a pre-requisite.

Students must have a minimum of a 3.0 GPA in the program to receive the Graduate Certificate in Management.

New Venture Management Graduate Certificate

The Graduate Certificate in New Venture Management (GCNVM) is comprised of graduate classes currently offered through the Business Administration M.B.A. curriculum. The Graduate Certificate is designed for those students wishing to gain knowledge or update their knowledge in the specific area of New Venture Management. The Graduate Certificate is not a degree program and completion of this program indicates an expertise in a
narrow specialty, not general expertise in all areas of business.

Admission Requirements

Admission requirements include an undergraduate degree with a GPA of 3.00 or higher, and either relevant work experience or a GMAT of 550 or higher. Relevant work experience is a minimum of 3 years' experience in a relevant business-related position. The determination of what is considered relevant work experience will be made by the Coordinator of Non Degree Programs in the College of Business.

If desired, upon successful completion of the program, students may apply for admittance into the Business Administration M.B.A.. General admission requirements for the Evening MBA Program include: an undergraduate degree with a GPA of 3.00 or higher and a Graduate Management Admission Test (GMAT) score of 550 or higher.

Certificate Requirements

The Graduate Certificate in New Venture Management (GCNVM) is a 5 course, 15 credit hour program, comprising:

- MBA 715 - Market Opportunity Analysis
- MKT 737 - New Service and Product Development
- MGT 709 - New Venture Creation
- MGT 710 - New Venture Feasibility
- MGT 711 - Seminar in Negotiation

There are no pre-requisites for MBA715, however, the remaining four courses require the completion of the MBA Core or admission to the Graduate Certificate in New Venture Management as a pre-requisite.

Students must have a minimum of a 3.0 GPA in the program to receive the Graduate Certificate in New Venture Management.

MGT 709 Credits 3
New Venture Creation
Concerned with development of the business tools and skills necessary to successfully create an entrepreneurial venture. Focus includes evaluation of new venture opportunities, obtaining capital and other resources, personnel issues, business operations, and legal considerations. Students will prepare and present a business plan. Prerequisites Completion of the core MBA curriculum or approval of the Director of MBA programs.

MGT 710 Credits 3
New Venture Feasibility
This course emphasizes feasibility analysis as students choose business opportunities they will pursue. In conjunction with case study analysis and interaction with local entrepreneurs, students will assess the technical merits, operational logistics, legal ramifications, consumer needs and demands, team skills and abilities, and the financial viability of their new venture. Prerequisites Completion of the MBA core curriculum or approval of the Director of MBA Programs.

MGT 711 Credits 3
Seminar in Negotiation
Enhances students' abilities to use negotiation as a tool for managing conflict, making deals, and making team decision. Examines important aspects of the negotiation process, including preparations, strategies and tactics, international issues, the role of third parties, and ethical issues. Prerequisites Completion of MBA core curriculum or approval of the Director of MBA Programs.

MGT 712 Credits 3
Change Management
Change management is the process of transforming an organization's operations to enhance individual and organizational effectiveness. Both the rate of change and its importance to senior management seem to be accelerating. Examines competing models of change, considers various change methodologies, and explores examples of best practice. Prerequisites Completion of MBA core curriculum or approval of the Director of MBA Programs.

MGT 787 Credits 3-6
International Seminar
Exposes students to the problems and environment of international business in emerging markets. Students will visit selected international enterprises operating outside the US and experience first-hand the business etiquette and culture in that country. Prerequisites Approval of the Director of MBA Programs.
Management Information Systems

Chair

Rothenberger, Marcus
(2004), Associate Professor; Ph.D. Arizona State University.

Director, MIS Graduate Programs

Peffers, Ken
(2003), Professor; Ph.D. Purdue University.

Graduate Faculty

Chang, Jerry
(2000), Associate Professor, Ph.D., University of Pittsburgh.

Deng, Honghui
(2003), Associate Professor; Ph.D. University of Texas at Austin.

Hardin, Andrew
(2007), Associate Professor, Ph.D. Washington State University.

Torkzadeh, Reza
(1999), Professor and Associate Dean for Academic Affairs, Ph.D., University of Lancaster, UK.

Emeritus Graduate Faculty

Erickson, Ranel
(1980), Emeritus Professor, Ph.D., Stanford University.

Hong, Weiyin
(2001) Emeritus Associate Professor, Ph.D., Hong Kong University of Sciences

This program prepares graduates for professional and managerial careers in IT or for doctoral studies leading to research and teaching careers in IS. This objective is achieved through a balanced emphasis on theory and practice. The program prepares graduates with a broad-based knowledge of information systems design, development, implementation, evaluation, and maintenance. The graduates will understand IT’s dynamic nature and will be able to use and manage IT for problem solving, decision-making, competitive advantage, and innovation. Courses in the program include projects that allow students to organize team activities, analyze problems and propose solutions, explain project-related decisions, document and communicate progress, collect and analyze data, and present solutions. Students develop written and spoken communication skills. Students in this program have the option to write an MS thesis, a substantial original work that contributes to the body of knowledge in IS and business.

Students work closely with research faculty on the thesis with the objective of producing publishable quality research outcomes. The thesis prepares students for professional careers by giving them unique skills or knowledge with professional value. It prepares research oriented students with research skills that will be invaluable in pursuing the Ph.D. Students in the program take pride in using the thesis to learn something truly unique.

This degree program will prepare the graduate with:

- A deep understanding of systems thinking and ways that IT can be used to enhance effectiveness of the individual and organizations.
- The ability to analyze business problems, to develop system solutions, and apply information technology to obtain business solutions.
- A comprehensive understanding of the theoretical basis of management information systems and current research questions.
• The ability to learn on a continuing basis to stay current with rapidly changing technologies.
• The ability to effectively communicate the technology and its application to business executives and users of information systems.
• The knowledge and skills to function as an information technology professional in public or private organization.
• Excellent preparation to enter a doctoral program in MIS.

Programs

• Management Information Systems Certificate
• Management Information Systems & Business Administration Dual M.S./M.B.A.
• Management Information Systems M.S.
• Management Information Systems & Hotel Administration Dual M.S

Management Information Systems & Business Administration Dual M.S./M.B.A.

The dual MBA and MS MIS program of study is designed for those who seek career and business leadership opportunities in management information systems. The program will provide students with the needed skills, knowledge, and tools to become visionary and creative business leaders with strong competency in management information systems. The core MBA program is designed to advance the knowledge and practice of business and administration. The MS MIS portion of the dual degree is designed to prepare graduates with a broad-based knowledge of information system design, development, implementation, evaluation, and maintenance.

Program Overview

The program includes 57-credits and the student will receive both, an MBA and an MS MIS degree. Each student completes a total of 24 credit hours in MIS courses and a total of 33 credit hours in MBA core courses with a minimum GPA of 3.0. MBA courses are accepted as hours of elective towards the MS MIS degree. The program does not require a thesis.

Admission Requirements

The admission requirements for the dual degree program are the same as those stated under the regular MBA and M.S. in Management Information Systems programs. Applicants must be admitted to both the MBA and Master of Science in Management Information Systems programs. Candidates have to apply to both, the MBA program and the MS MIS program and meet the respective application requirements.

Degree Requirements

Completion of the dual MBA and MS MIS degree include:

• Completion of a minimum of 33 credit hours of MBA core courses and a minimum of 24 credits of MS in MIS courses.
• A grade point average of at least 3.00 for course work required for the degree.
• No grade lower than C is acceptable. Students with unsatisfactory progress toward the degree requirements are subject to dismissal. A student with a grade of C or lower in any of the required courses for the degree will be put on probation for one semester. Conditions and deadlines for the removal of probation will be specified. Failure to meet the condition will result in departure from the program. A student with two grades of C or lower will be dropped from the program.

The following courses are required for the dual degree
M.S. in Management Information Systems
Courses - Total Credits: 24

- MIS 740 - Software Concepts
- MIS 744 - Information Systems Planning & Strategy
- MIS 746 - Information Systems Project Management
- MIS 760 - Data Communications and Systems
- MIS 762 - Systems Analysis, Modeling and Design
- MIS 764 - Advanced Web Development and Electronic Commerce
- MIS 766 - Data Management
- MIS 773 - Research Seminar in Information Systems

MBA Core Courses - Total Credit: 33

- MBA 702 - Statistical Analysis
- MBA 706 - Law, Regulations and Ethical Issues
- MBA 707 - Organizational Behavior
- MBA 709 - Accounting for Managers
- MBA 710 - Applied Economic Analysis
- MBA 711 - Managerial Finance
- MBA 715 - Market Opportunity Analysis
- MBA 720 - Supply Chain Management
- MBA 730 - Information Systems for Management
- MBA 735 - International Business and Cross Cultural Perspectives
- MBA 795 - Strategy Formation Processes

Management Information Systems & Hotel Administration Dual M.S

The Lee School of Business, MIS department and the William F. Harrah College of Hotel Administration offer a Master of Science in Management Information Systems (MS HOA / MS MIS) dual degree program. It is designed for students who seek careers and leadership opportunities in the hospitality industry with a focus on information technology and management information systems. The program provides students with the skills, knowledge, and tools needed to become visionary and creative leaders in information technology in the hospitality industry. The program includes 48-credits and the student will receive both, an MS HOA and an MS MIS degree. Each student completes a total of 24 credit hours of MIS courses and a total of 24 credit hours of HOA courses. HOA courses are accepted as hours of elective towards the MS MIS degree and MIS courses are accepted as hours of elective towards the HOA degree.

Admission Requirements

The admission requirements for the dual degree program are the same as those of the regular MS HOA and MS MIS programs. Applicants must be admitted to both, the MS HOA and MS MIS programs. Candidates have to apply to the MS HOA / MS MIS dual program on the UNLV Graduate College web site (not to both individual programs) and submit required application materials to the Graduate College (online application on Graduate College web site, application fee, official transcripts, and official TOEFL score for international applicants), to the MIS Department (official GMAT or GRE score, two letters of recommendation [employee and college faculty if applicable], and official college transcripts), and to the Harrah's College of Hotel Administration (official GMAT or GRE score, two letters of recommendation [employee and college faculty if applicable], official college transcripts, a current resume, and evidence of one year full-time managerial experience or three years full-time front line experience in a hospitality-related field).

Applicants must meet the admission requirements of both programs, which include an overall undergraduate grade point average of at least 3.00, a GMAT score of 550 (or satisfactory GRE scores), a
satisfactory TOEFL score for international applicants, and full-time work experience in the hospitality industry (one year managerial or three years front line experience).

Curriculum

M.I.S. Core Courses – Total 24 Credits *
MIS 740 - Software Concepts
MIS 744 - Information Systems Planning & Strategy
MIS 760 - Data Communications and Systems
MIS 762 - Systems Analysis, Modeling and Design
MIS 764 - Advanced Web Development and Electronic Commerce
MIS 766 - Data Management
MIS 775 - IT Architecture for Business
MIS 776 - Business Intelligence
* With approval of the Director of Graduate MIS programs, required MIS courses may be substituted with elective courses to avoid duplication of a student’s previous course work and to address the needs of the student’s specific career choice.

Hotel Administration M.S. Courses (dual M.I.S. degree) – Total Credits 24
HOA 716 - Principles and Practices in Hotel Management
or
HOA 717 - Principles and Practices in Convention and Meetings Management
or
HOA 718 - Principles of Casino and Gaming Management
or
HOA 720 - Principles and Practices in Food Service Management
HOA 731 - Operational Analysis in Hospitality Management
HOA 735 - Research Methodology
HOA 725 - Information Technology in the Hospitality Industry
HOA 751 - Hospitality Service Management
HOA 760 - Research Seminar in Hotel Administration
or
HOA 761 - Research Seminar in Food Service Administration
or
HOA 763 - Research Seminar In Casino and Gaming Management
or
HOA 777 - Critical Issues in Hospitality Management
HOA 788 - Professional Paper (Professional paper must be completed at the end of the dual program and examine a topic relating to Information Technology in Hospitality)

Management Information Systems Certificate

The Certificate in Management Information Systems (MIS) program is a graduate certificate program designed for individuals who want to acquire specific MIS skills to meet the needs or demands of their workplace. The certificate program is suitable for students with no prior MIS background, as well as for those who have prior MIS knowledge or education and want to acquire specific additional skills (retooling). Students can select from three suggested programs of study or they can, upon approval of the MIS Graduate Coordinator, customize the certificate program to meet their specific retooling needs.

Program Overview

The Certificate in Management Information Systems program requires the completion of four MIS graduate courses. These are courses that are already offered as part of the Master of Science in MIS (MS MIS) program. While the MS MIS program requires the completion of 36 credits, the Certificate in MIS program requires the completion of 12 credits, a subset of the MS MIS program requirements.

Admission Requirements

The Department of MIS welcomes applications from college graduates in all fields. The student must
satisfy the minimum requirements of the Graduate College and the Certificate in MIS program. The candidate must meet the following requirements:

1. Submission of completed application form and required application fee;
2. Submission of official transcripts from all institutions attended after high school;
3. Submission of official transcripts of all college-level course work previously taken and evidence of having been awarded the equivalent of a U. S. bachelor’s degree from an accredited college or university with an overall undergraduate grade point average of at least 3.00 on the four-point scale;
4. Official GMAT or GRE score. Graduate Management Admission Test (GMAT) with target score of 550. Applicants with satisfactory scores on the general aptitude portion (50th percentile or higher) of the Graduate Record Examination (GRE) will be considered for admission. Test scores over five years old are not accepted.

If a student is already admitted to the MS MIS program and wants to switch to the Certificate in MIS program, then the student must apply for admission to the certificate program. The student can transfer up to 12 credits of MIS courses into the certificate program after being admitted. Alternatively, if a student in the Certificate in MIS program wants to switch to the MS MIS program, then the student must apply for admission to the MS MIS program. The student can transfer up to 15 credits of MIS courses into the MS MIS program after being admitted. The student can transfer these credits into the MS MIS program even if they were already applied towards the certificate.

**Certificate Requirements**

The Certificate in MIS program requires the completion of 12 credits of graduate MIS courses (four 3-credit courses). Students can choose from one of the following three suggested programs of study, or they can customize a program of 12 credits (four 3-credit courses) to meet their individual or professional needs. Customized programs of study must be approved by the MIS Graduate Coordinator before the student starts the first courses.

### Suggested Programs of Study

All courses are 3 credits. Changes to these courses of study requires prior approval of the MIS Graduate Coordinator.

**Business Analysis and Development for Systems**

- MIS 744 - Information Systems Planning & Strategy
- MIS 746 - Information Systems Project Management
- MIS 762 - Systems Analysis, Modeling and Design
- MIS 766 - Data Management

**System Development Technologies**

- MIS 760 - Data Communications and Systems
- MIS 762 - Systems Analysis, Modeling and Design
- MIS 764 - Advanced Web Development and Electronic Commerce
- MIS 775 - IT Architecture for Business

**Business Intelligence**

- MIS 760 - Data Communications and Systems
- MIS 764 - Advanced Web Development and Electronic Commerce
- MIS 766 - Data Management
- MIS 776 - Business Intelligence

**Note:**

MBA 730 - Information Systems for Management is the prerequisite for all courses in the certificate program. This prerequisite may be waived for individuals with equivalent prior coursework or extensive information systems experience.
Additional MIS Certificate Courses

MIS 740 - Software Concepts
MIS 752 - Advanced Topics in MIS
MIS 768 - Java Programming
MIS 770 - IS Security, Audit and Control
MIS 772 - Advanced Information Systems

Management Information Systems M.S.

Program Overview

The Master of Science in Management Information Systems (MS MIS) program prepares graduates for professional careers in the management of information technology (IT). The MS MIS focuses on the application of technology to help achieve organizational goals and solve business problems. MIS students earn competency in IT, embedded in a business context, that provides them with well-rounded preparation for occupations in high demand. Recent graduates are pursuing careers in a variety of roles, such as project manager, IT manager, business analyst, database analyst, network engineer, and systems consultant.

Each student completes a total of 36 credit hours in MIS courses with a minimum GPA of 3.0. The student can elect to either take 30 credit hours of coursework and complete a master-level thesis for 6 credit hours, or to complete 36 credit hours of coursework. The student’s program will be selected in consultation with and approved by the student’s advisor and the department chair and may include up to two courses (four courses if the non-thesis option is selected) from supporting areas other than MIS, such as accounting, law, computer science, economics, social sciences, and management.

Admission Requirements

- Bachelor of Arts or Bachelor of Science degree
- Application to the Graduate College at UNLV
- Official transcripts of all college-level work
- For international applicants to MIS graduate programs, the requirement that transcripts be evaluated by an outside agency is waived.
- Two letters of recommendation in sealed envelopes
- Minimum undergraduate GPA of 3.0 on a four-point scale
- Official GMAT or GRE score. A score of 550 or higher is required on the GMAT or a score in the 50th percentile or higher is required on the general aptitude portion of the GRE.

The GMAT test score should be reflective of verbal and quantitative aptitude. GMAT or GRE scores over five years old are not accepted.

Individuals with deficiencies in their undergraduate background may be required to enroll in selected additional undergraduate courses to satisfy the M.S. degree requirements. A maximum of 12 credit hours may be transferred into the program if taken recently from an AACSB accredited school. The department chair and the associate dean must approve any earned credits for transfer.

Individuals with degrees in disciplines other than business are required to take the following MBA core courses:

MBA 702 - Statistical Analysis,
MBA 709 - Accounting for Managers,
MBA 710 - Applied Economic Analysis,
MBA 711 - Managerial Finance as prerequisites.
MBA 730 - Information Systems for Management is the prerequisite for all courses in this program. The department chair and the associate dean may waive some of these leveling courses for individuals with extensive business and information systems experience.
The application forms, fees, letters of recommendation, official transcripts, test results, and assistantship applications must be submitted to the Graduate College as outlined in this catalog. International students are required by the Graduate College to complete the TOEFL with a minimum score of 550 (written) or 213 (computerized) or show comparable evidence of competence in English. International students should check with the Graduate College for current deadlines.

**Degree Requirements**

Completion of the degree requirements for the Master of Science in Management Information Systems include:

- Completion of a minimum of 36 credit hours of M.S. in MIS courses.
- Optional completion and defense of master’s thesis.
- A grade point average of at least 3.00 for course work required for the degree.
- No grade lower than C is acceptable.

Each student’s program of course work must be selected in consultation with and approved by the student’s advisor and the department chair, and may include up to 6 credit hours (12 credit hours if the student elects the non-thesis track) from selected disciplines other than MIS, such as cognitive psychology, computer science, accounting, or economics. Students on the thesis track are expected to select a research advisor by the end of their first year, to attend all departmental seminars, and to present a research seminar prior to graduation. Students with unsatisfactory progress toward the degree requirements are subject to dismissal. A student with a grade of C or lower in any of the required courses for the degree will be put on probation for one semester. Conditions and deadlines for the removal of probation will be specified. Failure to meet the condition will result in departure from the program. A student with two grades of C or lower will be dropped from the program. Students are required to register for six hours of thesis. They are advised to split these six hours of thesis and register for three hours each during the last two semesters.

**M.S. in Management Information Systems Courses**

- **Total Credits: 24 credits plus 12 credits electives.**

  - MIS 740 - Software Concepts
  - MIS 744 - Information Systems Planning & Strategy
  - MIS 746 - Information Systems Project Management
  - MIS 760 - Data Communications and Systems
  - MIS 762 - Systems Analysis, Modeling and Design
  - MIS 764 - Advanced Web Development and Electronic Commerce
  - MIS 766 - Data Management
  - MIS 773 - Research Seminar in Information Systems

*Electives 12 credits (including 6 credits thesis if student elects thesis option)

**If a student has completed any of the required or elective MIS graduate courses as part of a previous degree at UNLV with grades of B or better, the course(s) may be waived and the number of credits required for the MS MIS program will be reduced by an equal number of credits, up to a maximum of 12 credits.

**MIS 740**  
**Credits 3**  
**Software Concepts**  
First course in programming for non-programmers aimed at developing a proficiency in designing and writing programs using a high-level programming language. Topics include standard programming constructs (conditionals, loops, etc.), concept of an algorithm, and fundamental data types (numbers, strings, arrays, etc.). **Prerequisites** MBA 730 or admission to the MSIS program.

**MIS 742**  
**Credits 3**  
**Systems Design and Development**  
Covers both systems analysis and design and modern database concepts. Introduces basic systems analysis
and design tools and techniques used to analyze business processes and data flows. Also focuses on the relational database model and principles of good database design. **Prerequisites** Completion of the core MBA curriculum or approval of the Associate Dean.

**MIS 744**  
**Information Systems Planning & Strategy**  
Familiarizes students with aspects of developing, implementing and evaluating strategic plans for corporate information systems as a competitive tool; using methods and frameworks for strategic analysis; assisting in establishing an information systems strategy; developing an understanding of change management issues in IS planning for organizations. **Prerequisites** Completion of the core MBA curriculum or approval of the Associate Dean.

**MIS 746**  
**Information Systems Project Management**  
Conceptual material on project management techniques. Planning, organizing and controlling of projects in manufacturing and service organizations. Includes project management process, project scheduling, project resource management, schedule duration risk analysis and management of project. **Prerequisites** MBA 730

**MIS 748**  
**Social and Economic Impacts of Information Technology**  
The impact of IT on post-industrial management, productivity, personnel, privacy, competitive advantage, innovation, organizational design, organizational intelligence, decision-making, individual learning, and communication. Students prepare term papers on the impact of information technology on specific industries, depending on their career path interests. **Prerequisites** MBA 730

**MIS 752**  
**Advanced Topics in MIS**  
Advanced or specialized study in a special topic or subject area in information systems. **Notes** May be repeated with different subject matter to a maximum of six credits. **Prerequisites** MBA 730

**MIS 753**  
**Independent Study**  
Independent study under the direction of a faculty advisor of a topic in information systems. **Notes** May be repeated for credit. **Prerequisites** MBA 730

**MIS 755**  
**Internship**  
Supervised practical experience with a participating enterprise or government agency, culminating in a written report. **Notes** May be repeated to a maximum of six credits. **Grading** S/F grading only.  
**Prerequisites** MS MIS program admission

**MIS 760**  
**Data Communications and Systems**  
Concepts, models, architectures, protocols, standards, and security for the design, implementation, and management of digital networks. Essentials of local area networks (LAN), metropolitan area networks (MAN), and wide area networks (WAN). Transmission and switching efficiency, and regulatory and technical environments. Topics include: security and authentication, operating systems, e-commerce etc. **Prerequisites** MBA 730 or admission to the MSIS program

**MIS 762**  
**Systems Analysis, Modeling and Design**  
Systems development life cycle, analysis and design techniques. Information systems planning, project identification and selection, requirements collection and structuring, process modeling, data modeling. Design of interface and data management, system implementation and operation, system maintenance, and change management. Rapid application development and prototyping. **Prerequisites** MBA 730

**MIS 764**  
**Advanced Web Development and Electronic Commerce**  
Integration of technology and commercial practices for doing business on the Internet. Business and social implications of emergence of electronic commerce in cyberspace. Technological and organizational issues. Introduction to and application of advanced tools and techniques in the development of commercial-quality web sites. **Prerequisites** MBA 730

**MIS 766**  
**Data Management**  
Concepts, principles, issues and techniques for managing corporate data resources. Techniques for managing design and development of large database systems including logical data models, concurrent processing, data distribution, database administration,
data warehousing, data cleansing, and data mining. **Prerequisites** MBA 730

**MIS 768**  
**Java Programming**  
Java programming language, platform, software delivery environment, internet commerce environment, applications vs. applets/services, Java APIs and extensions, paradigms in information systems, network computers, security and future directions. **Prerequisites** MIS 740

**MIS 770**  
**IS Security, Audit and Control**  
Investigates broad selection of contemporary issues in computer security, including an assessment of state-of-the-art approaches used to address security problems. Integration with organizational/informational systems audit, computer information systems, and management practices. **Prerequisites** MBA 730

**MIS 772**  
**Advanced Information Systems**  
Technical and managerial issues in the effective development and use of decision support systems (DDS) from three distinct approaches: data, intelligence and groups. Extensive hands-on exercises with state-of-the-art software. Exposure to current industry best practices. **Prerequisites** MBA 730

**MIS 773**  
**Research Seminar in Information Systems**  
Survey a range of historic and current research in IS to understand current problems of interest to IS researchers and methods used to address them. A major deliverable for the course will be a proposal for a thesis research project. **Prerequisites** MBA 730

**MIS 774**  
**IT Outsourcing**  
This course will focus on the sourcing issues relevant to information systems development and integration in organizations. Topics will include vendor selection, vendor evaluation, negotiation, risk mitigation, contract implementation, partnership, intellectual property, integration, retention, social influences, critical success factors, and offshoring. **Prerequisites** MBA 730.

**MIS 775**  
**IT Architecture for Business**  
How IT Architecture can meet corporate information system needs. Topics include system scaling, architecture design, enterprise integration, service-oriented architectures, web services, agile application development, corporate IT security, disaster recovery, cost of ownership, and others. Students apply concepts using IBM system i. **Prerequisites** MIS 762 or Instructor Consent.

**MIS 776**  
**Business Intelligence**  
Business intelligence refers to the set of technologies and tools that enable organizations to integrate, store, analyze, and report data for the purpose of obtaining competitive advantage. Students will be exposed to key components of business intelligence applications, including defining data structure, analyzing cubes, data mining, and reporting. **Prerequisites** MIS 766 or Instructor Consent

**MIS 777**  
**Project Feasibility Study and Proposal**  
Mastery of methods and techniques required to propose new systems for processes, applications and products, including idea generation, data collection, analysis, project proposals, client presentations, sourcing and vendor negotiation. Emphasis on data collection techniques, including structured and unstructured individual and group interviews, survey questionnaires, observation, and document analysis. **Prerequisites** MS MIS program admission

**MIS 778**  
**Technology Innovation and Feasibility Analysis**  
This course emphasizes a technology feasibility analysis. In conjunction with case study analysis and interaction with local entrepreneurs and business leaders, students will assess the technical merits, operational logistics, legal ramifications, consumer needs and demands, team skills and abilities, and the financial viability of a technological innovation.

**MIS 779**  
**Technology Venture Creation**  
The Technology Venture Creation course take students from the idea stage to the startup of a new technology based venture. The key output from the course will be a business plan for a new technology venture that can be taken to investors for funding. **Prerequisites** MIS 778 or consent of instructor.

**MIS 780**  
**Thesis**  
A substantial piece of work demonstrating the use of research methods and presentation of research results.
Students must complete twelve required credit hours before they can register for this course. This course is a six-credit hour thesis and is expected to take two semesters to complete. Completion of the thesis requires a successful defense. **Notes** May be repeated to a maximum of eighteen credits. **Prerequisites** MIS 773 with a minimum grade of B.
College of Education

The mission of the College of Education is to prepare professionals for changing educational contexts. Graduate programs in the College of Education provide a variety of opportunities to prepare for continued professional practice, educational leadership, research, and scholarship in a wide array of educational settings. Graduate programs in the College of Education include master, educational specialist, and doctoral degrees as well as post-baccalaureate programs for initial teacher licensure and additional endorsements toward licensure. These programs are available in the departments of Educational & Clinical Studies, Educational Research, Cognition, & Development, and Teaching & Learning. The College of Education has an outstanding graduate faculty who are nationally recognized for their scholarship and leadership.

The College of Education provides dynamic graduate programs that engage students in field-based practice and research, offering students an exciting opportunity to study at a nationally recognized university situated within one of the fastest growing cities and school districts in the country.

The College of Education is accredited by the National Council for Accreditation of Teacher Education (NCATE) and the State of Nevada. The COE is also accredited by the Northwest Commission on Colleges and Universities (NWCCU), this is an independent, non-profit membership organization recognized by the U.S. Department of Education as the regional authority on educational quality and institutional effectiveness of higher education institutions in the seven-state Northwest region of Alaska, Idaho, Montana, Nevada, Oregon, Utah, and Washington. It fulfills its mission by establishing accreditation criteria and evaluation procedures by which institutions are reviewed.

William Speer, College of Education Interim Dean (1998), Professor; B.S., M.S., Ed.D., Northern Illinois University; Ph.D., Kent State University.

Doctoral Degrees in Education

The College of Education offers the Doctor of Philosophy (Ph.D.) and the Doctor of Education (Ed.D.) degrees.

Doctor of Philosophy programs are designed to prepare individuals to become skilled researchers, university faculty, and leaders in school districts and community agencies.

Doctor of Education (Ed.D.) programs are designed to prepare candidates for a lifetime of professional service, effective practice, and the application of inquiry.

The following doctoral degrees are offered:
- Curriculum & Instruction Ed.D.
- Curriculum & Instruction Ph.D.
- Educational Psychology Ph.D.
- Higher Education Ph.D.

Admission Requirements

All general admission requirements of the Graduate College must be satisfied. Responsibility for general admission rests with the Graduate College. The College of Education is a selective institution. The Department of Education will review and screen applications for admission. Upon recommendation of the department, the Graduate College will give the final approval of admission. Admission to each department program is limited and each department has established a deadline for completed applications. However, any approved courses taken after the application is filed may be used on the program of study if admission is accomplished. Please refer to departmental guidelines regarding this point. To apply for doctoral program admission, the applicant must:

1. Hold a master’s degree from an accredited program in an area of study closely related to the chosen field of specialization;
2. Present evidence of successful professional experience in a field related to the chosen field of specialization; and
3. Meet all additional criteria and provide the necessary evidence of qualifications stipulated by the department in which admission is desired.

Degree Requirements

The Doctor of Philosophy (Ph.D.) and Doctor of Education (Ed.D.) degrees require a minimum of 60 to 72 semester hours beyond the master’s degree. Each department/program specifies how these semester hours are distributed. Students must maintain continuous enrollment of at least three hours each semester (except summers) throughout the program period.
Residency Requirements for Doctoral Programs

A minimum number of semester hours of credit must be earned at the University of Nevada, Las Vegas campus. Each department has specific requirements for the number of semester hours that constitute the residency requirement. Course requirements and semester hours taken elsewhere (whether prior to or subsequent to admission) or course requirements taken at the University of Nevada, Las Vegas prior to admission may be utilized in meeting degree requirements at the discretion of each department. Acceptance of courses taken prior to admittance into the doctoral program are subject to the constraints noted in the general academic regulations of the Graduate College and the specific residence requirements of the doctoral program.

The Advisor and the Student’s Committee

At the time a student is admitted, the department must designate a temporary program advisor who is a graduate faculty member of the department. The Graduate College must approve the selection of the student’s committee when the student has completed a specific number of semester hours determined by the department and committee. The committee guidelines are as follows:

1. The chair and/or co-chairs must be a member(s) of the doctoral faculty designated by the department. It may be the individual(s) who has served as the temporary chair(s).
2. The committee must include at least two members of the doctoral faculty in the student’s department. A representative who is a member of the graduate faculty at the University of Nevada, Las Vegas and who is from a department other than the student’s must serve on the student’s committee. The Dean of the Graduate College appoints this representative when the committee is formed.
3. The temporary program advisor is responsible for the guidance of the student in course selection and general advisement up to the time of appointment of the student’s committee. The chair/co-chairs of the student’s committee will have primary responsibility for developing, in consultation with the student, a program of study based on the stated requirements and tailored to meet the student’s degree objectives. The committee is responsible for conducting and evaluating the comprehensive and final examination and approving the dissertation topic.

The Program of Studies

When the student has completed the minimum number of semester hours specified by the committee, the program of studies must be filed with the Graduate College. Changes in the approved program require approval by the student, the student’s committee, and the Graduate College.

The Doctoral Core Requirement

Each doctoral student will be required to complete a core of studies, which is selected and approved by the student’s committee. The content of the core will include but not be limited to the following:

1. Analysis and evaluation of major issues confronting American education that are of significance to all professional educators and/or historical, philosophical, or social foundations of American education.
   - Research concepts and tools that are appropriate to the needs of the student as a consumer of research-based information, as a user of concepts and tools in the dissertation project and as an informed conductor of applied studies. At least six semester course credits are required to be taken by each doctoral student in research methods, interpretation, and/or application. Courses are to be selected by the student’s committee from an approved list of courses provided by the department.
2. The Qualifying Examination
   - Some departments require a qualifying examination as a part of the screening process for admission or for diagnostic purposes to be given shortly after admission.
Students should consult the specific department for more information

The Qualifying Examination

Some departments require a qualifying examination as a part of the screening process for admission or for diagnostic purposes to be given shortly after admission. Students should consult the specific department for more information.

The Comprehensive Examination

A comprehensive examination must be conducted by the committee during the term in which all work on the program, except the dissertation, will be completed. The examination will be scheduled, announced, and conducted according to the procedures established by each department and the Graduate College. The comprehensive examinations must be completed successfully before the student is advanced to candidacy. Satisfactory performance on the examination requires unanimous approval of the Committee.

Advancement to Candidacy

The student will be advanced to candidacy immediately following their proposal meeting. Students may register for three dissertation credits before they have been formally advanced to candidacy. Advancement to candidacy must be approved unanimously by the committee. The degree program must be completed within six years. If these contingencies are not met, the student will be separated from the Graduate College.

Dissertation

The dissertation topic will involve scholarly, practical consideration of some professional problem designed to contribute to the improvement of educational practice or the body of educational theory. The dissertation should be related to the student’s individual program of study, and it must be approved by the committee. The student is referred to department and Graduate College regulations governing the preparation and submission of the dissertation for all technical matters such as form, style, and deadlines for filing.

Final Examination

Following completion of the dissertation, an oral defense will be conducted by the committee. It will be scheduled, announced and conducted according to the procedures and deadlines noted by the department and the Graduate College. Satisfactory performance on the examination requires unanimous approval of the committee.

Application for Graduation

Formal application for graduation must be made according to the procedures noted by the Graduate College.

Master’s and Educational Specialist Degrees

Each department offers the Master of Education and/or Master of Science degree, and several departments also offer the Educational Specialist degree. Due to the unique nature of these programs, each department provides information specific to these graduate degrees.

Licensure Programs

The College of Education provides programs to meet the needs of persons who hold the baccalaureate degree and who wish to be licensed in the State of Nevada. Graduate Licensure Programs are offered for persons who wish to pursue a license and/or a master’s degree while obtaining a license in administration or elementary, secondary, special or work force education. Individuals interested in graduate level licensure possibilities are encouraged to contact the appropriate department.
Educational Research, Cognition, & Development

**Chair**
Putney, LeAnn G.
(1997), Associate Professor; B.A., Indiana State University; M.S., California State University; Ph.D., University of California, Santa Barbara.

**Graduate Coordinator**
Watson, Doris L.
(2005), Associate Professor; B.A., Adams State College; M.S., Colorado State University; M.A., Adams State College; Ph.D., University of New Mexico.

**Graduate Faculty**
Bendixen, Lisa
(1999), Associate Professor; B.A., Creighton University; M.A., Ph.D., University of Nebraska-Lincoln.

Corkill, Alice Jane
(1992), Associate Professor; B.A., M.A., Ph.D., University of Nebraska.

Crank, Joe
(1989), Associate Professor, B.A., Southern Illinois University at Carbondale; M.S., Illinois State University; Ph.D., University of Kansas.

Hong, Eunsook
(1990), Professor; B.A., Hansung University (Seoul); M.S., Ph.D., University of Southern California.

Jones, W. Paul
(1987), Professor; B.A., M.A., Eastern New Mexico University; Ed.D., New Mexico State University.

Kardash, CarolAnne M.
(2001), Professor; B.A., Le Moyne College; M.S., College of St. Rose; Ph.D., Arizona State University.

Loe, Scott A.
(2003), Associate Professor; B.S., Arizona State University; M.A., Ph.D., The Ohio State University.

Lough, Nancy L.
(2006), Associate Professor; B.A., Adams State College; M.Ed., Stephen F. Austin State University; Ed.D., University of Northern Colorado.

Marchand, Gwen
(2008), Assistant Professor; B.A., Rockhurst University; M.S., Ph.D., Portland State University.

Martinez, Mario
(2003), Associate Professor; B.S., New Mexico State University; MBA, University of Texas, Austin; Ph.D., Arizona State University.

McCafferty, Steven
(1995), Associate Professor; B.A., California State University; M.A., University of Hawaii; Ph.D., University of New Mexico.

Nathanson, Rebecca
(2000), Associate Professor; B.A., University of California, Los Angeles; M.A., Ph.D., University of California, Santa Barbara.

Nussbaum, E. Michael
(1999), Associate Professor; B.A., Pitzer College; M.P.P., University of California, Berkeley; Ph.D., Stanford University.

Olafson, Lori
(1999), Associate Professor; B.A., University of Saskatchewan; B.Ed., M.A., Ph.D., University of Calgary.

Reynolds, Ralph E.
(2000), Professor; B.S., University of Wisconsin; M.S., Arizona State University; Ph.D., University of Illinois.

Rosser, Vicki J.
(2008), Professor; Assistant Department Chair; B.A., University of Hawai‘i, West O‘ahu; M.Ed., Ph.D., University of Hawai‘i, Manoa.

Schraw, Gregory
The Master of Science in Educational Psychology is appropriate for students interested in pursuing advanced studies in educational psychology where both regional and national need for trained professionals has been identified. The three strands in the program focus on the core knowledge, research tools, and educational experiences necessary to succeed in various settings. The program is designed to provide advanced studies in educational psychology in either foundations or school psychology specialization strands, or a law degree and Ph.D. in Educational Psychology & Juris Doctor (JD)/Doctor of Philosophy (Ph.D.) in Education degree. Admissions to the program are based on the following criteria:

1. Bachelor’s degree from an accredited four-year college or university with a minimum grade point average of 2.75 overall or a 3.00 in the last two years of undergraduate work. Master’s degree programs require that an application for admission be submitted to the Graduate College, as well as transcripts from all colleges and universities attended.

2. Admission to the Master of Science degree program in Educational Psychology & Juris Doctor (JD)/Doctor of Philosophy (Ph.D.) in Education requires at least a 66 semester hours beyond the bachelor’s of college or university with either a minimum grade point average of 2.75 overall or a 3.00 in the last two years of undergraduate work. Master’s degree programs require that an application for admission be submitted to the Graduate College, as well as transcripts from all colleges and universities attended. Admission to graduate studies at UNLV requires a minimum of 34 credits is required for the degree. Students must maintain a grade point average of 3.00 or better in the program and a grade of B or better in core course work. The culminating experience for the M.S. degree is the defense of the students’ master’s thesis or completion of an internship. Completion of this program of graduate study enables the student to receive state licensure in educational psychology and the opportunity to gain national certification.

3. Three letters of recommendation

4. One writing sample

5. Three letters of recommendation

6. Graduate application

Any questions related to the related aspects of programs are available online.

The Master of Science in Educational Psychology is appropriate for students interested in pursuing advanced studies in educational psychology where both regional and national need for trained professionals has been identified. The three strands in the program focus on the core knowledge, research tools, and educational experiences necessary to succeed in various settings. The program is designed to provide advanced studies in educational psychology in either foundations or school psychology specialization strands, or a law degree and Ph.D. in Educational Psychology & Juris Doctor (JD)/Doctor of Philosophy (Ph.D.) in Education degree. Admissions to the program are based on the following criteria:

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2. Three letters of recommendation

3. One writing sample

4. Three letters of recommendation

5. Graduate application

Any questions related to the related aspects of programs are available online.
All students will be actively involved in research and research-related activities throughout their program of study. The program will prepare students for a variety of professional careers related to teaching, research, and professional practice in both academic and nonacademic settings. For example, students will be prepared to fill faculty, research, or assessment positions at academic institutions, such as universities, community colleges, and K-12 school districts.

Representative occupations include educational psychologist, program evaluator, director of school counseling, school counselor educator, educational assessment coordinator, school psychologist, and employee training specialist. Graduates from the school psychology specialization strand can find employment in universities, public and private schools, and as mental health service providers in agencies and private practice.

Admission will be limited to the most qualified applicants based on a combination of the following:

1. An undergraduate grade point average of 3.00 or above.
2. If graduate course work has been completed, a graduate grade point average of 3.00 or above.
3. Preference given to scores that relate to the 50th percentile or better on the verbal and quantitative sections of the Graduate Record Examination (GRE).
4. A score of 600 or above on the Test of English as a Foreign Language (TOEFL) is also required for students who do not speak English as their language.
5. Three letters of reference from university faculty or other individuals qualified to judge the applicant’s academic potential.
6. The applicant’s statement of professional interests and goals.
7. A scholarly or professional writing sample.
8. Graduate College application is available online. Applications for admission will be considered once a year. The deadline for the receipt of applications is February.

**Degree Requirements**

The Ph.D. in Educational Psychology requires 67 credits beyond the master’s degree. Of the 67 credits, 25 are in courses shared with other doctoral programs in the department. All strands have a requirement of one credit of professional seminar, 15 credits in research methods, 9 in learning theory, 12 in a required emphasis area, and 12 directed toward dissertation completion. The school counselor education strand requires an additional 18 credits in advanced school counselor education coursework. The school psychology strand requires 18 credits in advanced school psychology coursework. The foundations strand requires 18 credits in coursework tailored for the area of focus in the strand. Individual programs of study may exceed the minimum requirements.

All students must have a master’s equivalent degree to be considered for admission. Students must maintain a grade point average of 3.00 or better in the program and a grade of B or better in core course work. Students in the school counselor education strand enter with a master’s degree in a school counseling program accredited by the council for Accreditation of Counseling and Related Educational Programs (CACREP) or must have completed the substantial equivalent of such program. Students with degrees in other counseling specialties will be considered for admission with the understanding that additional course work will be required as part of their doctoral programs. For the school psychology strand, students without a master's degree must first be admitted to the Ed.S. program. Many students admitted for this strand have completed their Ed.S. from a NASP-approved program, or its equivalent, as evidence of the knowledge base of a professional school psychologist. Students without this foundation are considered for admission with understanding that their programs of study will include content from our Ed.S. program.

**Publication Requirement**

Each student must satisfy a scholarly paper requirement by the time he or she has completed 36 credits (Review I). The student must be primarily responsible for carrying out and reporting a study under the supervision of a program faculty member. The requirement may be fulfilled in one of two ways. First, the study may involve the collection and analysis of some empirical data (for example, a pilot study) resulting in a scholarly paper that is submitted to either a professional journal or as a proposal to an annual conference of a national organization. Second, the paper may consist of a literature review that is submitted for publication in a quality, peer-reviewed journal or submitted for presentation at a national conference. Prior to beginning, projects must be approved by a supervising faculty member. Once completed, students must submit to the program coordinator(s): (a) a copy of the paper, (b) a submission acknowledgement, and (c) a completed Review I form from the supervising faculty member.
Preliminary Examination
Each student must take the preliminary examination (Review II). This second formal assessment, typically completed during the last semester of formal classwork, is an examination that will focus on areas of knowledge that are most relevant to the student’s proposed dissertation topic. The student and his/her committee will determine the content of this examination format in that it will focus on in-depth reading and writing directly related to the student’s proposed dissertation topic as well as on the student’s mastery of previously learned core information.

Dissertation Proposals and Defenses
After successfully completing Review I (i.e., satisfying the scholarly product requirement) and Review II (i.e., passing the preliminary examination), students can then submit a formal dissertation proposal to their doctoral committee and submit the accompanying “Dissertation Prospectus” form to the Graduate College. The doctoral committee will meet and determine whether to accept or reject the prospectus. A prospectus can be accepted provisionally given that the student follows the committee’s suggestions in the dissertation. Upon completion of the full dissertation, a defense will be scheduled. This defense will be scheduled and conducted in accordance with the Graduate College’s policies for thesis and dissertation completion. It is the student’s responsibility to file the required “Notification of Oral or Written Examination” form with the Graduate College in a timely manner.

Higher Education M.Ed.

The Master’s of Education in Higher Education is designed to prepare graduates to serve in administrative capacities within the university, community college, and for-profit settings, with an emphasis on student affairs, intercollegiate athletics, and higher education organization. The degree is comprised of 37 semester credit hours. All courses in the program must be at the graduate level (i.e., course is at 600 level or above). A 3.00 GPA must be maintained in all courses that are part of the degree program. The Master of Education (M.Ed.) in Higher Education is a non-thesis program, which requires the successful completion of a capstone project taken during the final semester.

Admission Requirements
1. A bachelor’s degree from an accredited college or university
2. A completed application and official copies of all college transcripts
3. Two letters of professional recommendation
4. Submission of an official copy of the Graduate Record Examination (GRE) or the Graduate Management Admissions Test (GMAT), or the LSAT.
5. A minimum GPA of 2.75 for all undergraduate work or a 3.00 for the last two years of undergraduate work
6. Evidence of a minimum of two years satisfactory teaching or administrative experience (or equivalent) preferable but not required
7. Statement of Interest
8. Indication of interest in a graduate assistantship, when applicable

Degree Requirements
The M.Ed in Higher Education Leadership is a 37-credit, non-thesis program. It consists of a six course core curriculum, five elective courses, a three credit internship, and a one credit capstone experience. The capstone enables the candidate to synthesize her/his learning and apply the theory to practice.

Course Requirements
Higher Education Core (12 credits)
EDH 604 - Management Communications
EDH 607 - Leadership Development Seminar
EDH 609 - Leading Multicultural Organizations
EDH 703 - History of American Higher Education

Research Core (6 credits)
EPY 702 - Research Methods
Choose one from the following research courses:
EPY 716 - Evaluation Research Methods
EPY 718 - Qualitative Research Methodologies, OR
EPY 721 - Descriptive and Inferential Statistics: An Introduction

Internship and Capstone Course (4 Credits)
EDH 690 - Masters Internship
EDH 610 - Master's Capstone Experience

Electives (15 Credits)
Electives can come from but are not limited to, the three following emphasis areas.
1. Student Affairs Emphasis
   - EDH 626 - College Student Personnel Services
   - EDH 627 - Student Learning and Development
   - EDH 769 - Diverse Student Populations in Higher Education
2. Intercollegiate Athletics Emphasis
   - EDH 603 Introduction to Intercollegiate Athletics
   - EDH 606 NCAA Policies & Issues
Prospective students must first apply for admission through the University’s Graduate College. After completing an initial evaluation, the Graduate College forwards all of the materials to the Department of Educational Leadership for review. Minimum admission requirements for UNLV’s Graduate College include:

1. Completed application for admission and the nonrefundable application fee;
2. One copy of official transcripts from all institutions attended after high school, including verification of a master’s degree from an accredited college or university.

More information is available on the Graduate College website. Additional materials each candidate must submit directly to the Department of Educational Leadership include:

1. Personal Statement of Professional Aspirations;
2. A professional résumé or vita;
3. Verification of experience in higher education or related field;
4. Scores from the Graduate Record Exam (GRE), the Graduate Management Admission Test (GMAT) or the Law School Admissions Test (LSAT). Score should be no more than seven years old;
5. Three letters of nomination/professional reference;
6. Evidence of writing ability; see the website for specifics.

In the final step after reviewing all material, a select number of candidates will be invited for an interview with department faculty. The interview enables candidates to demonstrate their oral communication skills, commitment to continuing professional development, and to show their leadership, learning, and educational philosophy. Final admission will be based on evaluation of all application materials, including the interview.

For specific information on the Department of Educational Leadership’s Higher Education Ph.D. programs, please visit the website. Applicants interested in receiving a graduate assistantship must complete the Graduate Assistantship Application found on the Graduate College website. Potential students should also inform the program coordinator of their interest in the program.

Degree Requirements

This terminal degree requires students to complete a minimum of 72 semester hours of course work.
beyond the earned master’s degree, including the dissertation. The doctoral program also has a residency requirement. The residency requirement does not require students to forego employment or embark on full time study; rather, the residency requirements are met following the completion of the first part of the doctoral core comprehensive examination and by completing these outcomes:
- Completion of remaining course work, including research courses and electives
- Combination of doctoral internships and/or independent studies, as advised by student’s doctoral advisor
- EDH 790 - Doctoral Internship
- EDH 796 - Dissertation Proposal Preparation

Other Requirements

Completion of remaining course work can be accomplished by incorporating up to two independent study projects. An independent study can substitute for one research requirement or as an elective. A student may also use three credits of dissertation hours: (EDH 799 - Dissertation) toward the residency. Completion of the national presentation and/or submission of a manuscript for publication can be completed before or during the time in which students have enrolled for the first three credits of the dissertation. The residency requirements must be fulfilled prior to the dissertation proposal defense. Students must review an outcomes checklist with their advisors prior to the proposal defense to verify completion of residency. Upon completion of residency students should have 9 to 12 dissertation credits remaining in the program of study. Program requirements include a 15 credit content core, 18 credit research core, 21 credit of specialization, and 18 credits of internship (3) and dissertation (15). Students can elect to specialize in any of three emphasis areas: higher education leadership, including community colleges; higher education policy; and student services administration, including student learning and program assessment.

Learning & Technology Ph.D.

The Ph.D. in Learning and Technology is an academic program with an emphasis on the assessment and understanding of learning outcomes and processes in technology-rich learning environments and in modifying those environments in ways that promote more effective learning. The overarching goal of the program is to prepare students to become independent scholars who will contribute to the advancement of the discipline of educational psychology and the field of educational technology. Graduates of the program will be prepared for a variety of professional positions (e.g., university and community college faculty positions, educational psychologists, learning and technology specialists, employee training specialists, program evaluators, educational technology coordinators, and instructional technology specialists).

Admission Requirements

Admission will be limited to the most qualified applicants based on a combination of the following:
1. An undergraduate grade point average of 3.00 or above.
2. If graduate course work has been completed, a graduate grade point average of 3.00 or above.
3. Preference given to students whose scores relate to the 50th percentile or better on the verbal and quantitative sections of the Graduate Record Examination (GRE).
4. A score of 600 or above on the Test of English as a Foreign Language (TOEFL) is also required for students who do not speak English as their first language.
5. Three letters of reference from university faculty or other individuals qualified to judge the applicant’s academic potential.
6. The applicant’s statement of professional interests and goals.
7. Graduate College application is available online.

Degree Requirements

The Ph.D. in Learning and Technology consists of 67 credits beyond the master’s degree. Of the 67 credits, 37 will be required courses in learning theory, technology, and research methods, 18 will be electives, and 12 will be directed toward dissertation
completion. Individual programs of study may exceed the minimum requirements and specific course work will vary depending on particular areas of interest. Students must maintain a GPA of 3.00 or higher for all course work taken at the doctoral level. Students must maintain a grade point average of 3.00 or better in the program and a grade of B or better in core course work.

Scholarly Paper Requirement
Each student must satisfy a scholarly paper requirement by the time he or she has completed 36 credits (Review I). The student must be primarily responsible for carrying out and reporting a study under the supervision of a program faculty member. The requirement may be fulfilled in one of two ways. First, the study may involve the collection and analysis of some empirical data (for example, a pilot study) resulting in a scholarly paper that is submitted to either a professional journal or as a proposal to an annual conference of a national organization. Second, the paper may consist of a literature review that is submitted for publication in a quality, peer-reviewed journal or submitted for presentation at a national conference. Prior to beginning, projects must be approved by a supervising faculty member. Once completed, students must submit to the program coordinator(s): (a) a copy of the paper, (b) a submission acknowledgement, and (c) a completed Review I form from the supervising faculty member.

Preliminary Examination
Students must successfully complete a preliminary examination. This formal assessment will focus on areas of knowledge that are most relevant to the student’s dissertation topic. The student and his/her committee will determine the content of this examination. The student and his/her committee will determine the content of this examination format in that it will focus on in-depth reading and writing directly related to the student’s proposed dissertation topic as well as on the student’s mastery of previously learned core information.

Dissertation Proposals and Defenses
After successfully completing the scholarly paper requirement and preliminary examination, students can submit a formal dissertation proposal to their doctoral committee and submit the accompanying “Prospectus Approval” form from the Graduate College. The doctoral committee will determine the acceptability of the prospectus. Upon completion of the dissertation, a defense will be scheduled and conducted in accordance with the Graduate College’s policies for thesis and dissertation completion.

CIT 600 Credits 1 - 6
Topics in Educational Technology:
Specialized course that explores current educational technology topics.

CIT 601 Credits 3
Technology Applications Elementary Curriculum
Study of issues and applications of digital technologies in elementary schools. Students will explore appropriate uses of technology and gain hands-on experience in developing instructional activities using technology applications.

CIT 602 Credits 3
Technology Applications Secondary Curriculum
Study of issues and applications of digital technologies in secondary schools. Students will explore appropriate uses of technology and gain hands-on experience in developing instructional activities using technology applications.

CIT 604 Credits 1
Nevada Technology Leadership Conference
Annual conference to bring together educators interested in enhancing teaching and learning with computer-based technology. Presentations of timely topics, new techniques and strategies, and the latest hardware and software applications. Notes Maximum of three credits accepted toward a degree. Prerequisites Course work or experience in computing.

CIT 607 Credits 3
Technology as Educational Mindtools
Examines current technologies as examples of mindtools, research-based devices used to help students think and learn. Explores mindtools as a cognitive model and uses technology as a mindtool while providing students with the requisite skills to implement these tools in a
CIT 608 Credits 3
Integrating Technology in Teaching and Learning
Study of research-based practices and methods of integrating technology to promote thinking and learning. Students actively explore contemporary technologies and environments for the production and consumption of information. Prerequisites Coursework in educational technology or consent of instructor.

CIT 609 Credits 3
Internet for Learning
Examines the potential of the Internet to impact education and learning. Explores a wide range of online resources and how they can be integrated into instruction.

CIT 611 Credits 3
Digital Publishing for Educators
Hands-on tutorials and design assignments for using page layout and graphics software to create well designed, effective publications for professional and instructional purposes. Topics include: design principles, layout techniques, graphics and type manipulation, importing media, and desktop publishing projects for the classroom. Prerequisites Coursework in educational technology or consent of instructor.

CIT 622 Credits 3
Microcomputer Technology for Educators
In-depth look at how personal computers work. Microprocessors, printed circuit boards, bus structures, storage devices, and display options examined from the perspective of how they impact educational applications, purchasing decisions, and planning. Prerequisites Coursework in educational technology or consent of instructor.

CIT 643 Credits 3
Designing Digital Materials for Education
Examines instructional design principles and applies them to the design of instructional software. Explores various theories of learning as they apply to courseware. Prerequisites CIT 608 or consent of instructor.

CIT 647 Credits 3
Creating Online Learning Environments
Educational Web site development using contemporary tools and contexts. Emphasis on web-based programming and user interface design. Prerequisites CIT 609 or consent of instructor.

CIT 648 Credits 3
Issues and Methods in Online Learning
Addresses the theory and practice for online teaching and learning. Participants explore a range of resources and extend skills in creating and implementing digital learning activities. Emphasis is on pedagogical issues and trends in virtual schooling and distance education. Prerequisites CIT 609 or consent of instructor.

CIT 649 Credits 3
Instructional Methods Computer Applications
Study of research-based practices and methods for teaching computer applications. Emphasis on developing project-based instructional activities for teaching digital technologies in the elementary/secondary classroom or professional development settings. Prerequisites Coursework in educational technology or consent of instructor.

CIT 651 Credits 3
Instructional Methods Computer Science
Study of research-based practices and methods in the teaching of computer science topics including algorithmic processes and their principles, object orientation and programming, elements of software design and usability, data
abstraction and logic structures, and interface design. Emphasis is on project-based learning (PBL) strategies in a web-based development environment. **Prerequisites** Consent of instructor.

**CIT 653**  
Credits 3  
**Creating Digital Materials for Education**  
Focus on current application programming interfaces for developing digital educational materials. **Prerequisites** CIT 643 or consent of instructor.

**CIT 667**  
Credits 3  
**Technology and Educational Change**  
Examines issues and trends pertaining to the implementation of technology-based innovations. Includes a review of research on past and current change efforts. Topics covered include professional development, assessment, strategies for technology coordinators, grant writing, and long-range planning for effective change. **Prerequisites** CIT 608 or consent of instructor.

**CIT 669**  
Credits 3  
**Advanced Web Design and Development for Educators**  
Advanced educational web site development with emphasis on web-based programming and user interface design. Development environments such as JavaScript, Perl/CGI, and brief introduction to Java explored. **Prerequisites** CIT 647 or consent of instructor.

**CIT 673**  
Credits 3  
**Digital Materials Studio**  
Project-based course emphasizing problem definition, instructional design, and product development. Students work individually and collaboratively on a set of relevant technical and pedagogical competencies. **Prerequisites** CIT 643 or consent of instructor.

**CIT 676**  
Credits 3  
**Management of Educational Technology Facilities and Resources**  
Advanced course focusing on problems and issues in procurement and management of educational computing applications, desktop workstations, computer laboratories, local and wide area networks, and support services. Consideration given to hardware and software interoperability; security for hardware, software and information; legal issues; health and safety factors; budgeting. **Prerequisites** CIT 622

**CIT 700**  
Credits 1 – 6  
**Advanced Topics in Educational Technology**  
Specialized course that explores current educational technology topics and issues.

**CIT 770**  
Credits 3  
**Advanced Seminar in Educational Technology Research**  
Emphasis is on critical review and analysis of educational technology research from multiple theoretical and methodological perspectives. **Prerequisites** Doctoral status or consent of instructor.

**CIT 772**  
Credits 3  
**Technology in Teacher Education**  
Examines issues and research on preparing teachers to enhance learning with technology. Topics include ISTE’s National Educational Technology Standards (NETS) for Students and Teachers, technology integration in methods courses and field experiences, electronic portfolio assessment, one-to-one laptop projects, and online learning in teacher preparation and professional development. **Prerequisites** Doctoral status or consent of instructor.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIT 778</td>
<td>3</td>
<td>Instructional Design</td>
<td>Trends, issues, and research findings on effective instructional planning, presentation, and evaluation. <strong>Prerequisites</strong> Doctoral status or consent of instructor.</td>
</tr>
<tr>
<td>CIT 780</td>
<td>3</td>
<td>Multimedia Learning Studio</td>
<td>Examines the latest research regarding multimedia learning. Research supported principles will be applied in the development of multimedia instructional materials. <strong>Prerequisites</strong> CIT 778 or consent of Instructor.</td>
</tr>
<tr>
<td>CIT 782</td>
<td>3</td>
<td>Distance Education Issues and Trends</td>
<td>Study of issues, and trends in Distance Education. Examines distance education history, research, practice, and program/course development. <strong>Prerequisites</strong> Doctoral status or consent of instructor.</td>
</tr>
<tr>
<td>EPY 699</td>
<td></td>
<td>Special Topics</td>
<td>Graduate credit may be obtained for courses designated 600 or above. A Full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. <strong>Notes</strong> Credit at the 600 level normally requires additional work.</td>
</tr>
<tr>
<td>EPY 700</td>
<td>1 – 6</td>
<td>Special Problems: EPY</td>
<td>Specialized instruction in general professional education designed to develop depth in understanding of current EPY problems. <strong>Notes</strong> May be repeated to a maximum of six credits.</td>
</tr>
<tr>
<td>EPY 701</td>
<td>1 – 2</td>
<td>Proseminar in Educational Psychology</td>
<td>Introduction to graduate studies in educational psychology. Topics may include, but are not limited to: teaching apprenticeship, professional organizations, creating a vita, evaluation and assessment, institutional review board training, peer review process, use of PsychInfo and other topics relevant to graduate studies. <strong>Notes</strong> May be repeated to a maximum of two credits. <strong>Prerequisites</strong> EPY 702 (may be taken concurrently) or equivalent.</td>
</tr>
<tr>
<td>EPY 702</td>
<td>3</td>
<td>Research Methods</td>
<td>Early entry graduate-level survey of research methods with emphasis on comprehension of educational research literature. Includes scientific method, locating and summarizing published research, sampling, measurement, statistics, research design, and critique of published research.</td>
</tr>
<tr>
<td>EPY 703</td>
<td>3</td>
<td>Teachers as Producers and Consumers of Educational Research</td>
<td>Entry graduate-level survey of research methods with a dual emphasis on 1) comprehension of educational research literature (teachers as consumers of educational research) and 2) designing and conducting classroom-based research (teachers as producers of educational research).</td>
</tr>
<tr>
<td>EPY 705</td>
<td>2</td>
<td>Child Counseling</td>
<td>Focuses on children's position in and impact upon the family, emotional development, assessment of behavioral and emotional problems, adjustment issues at school and social/developmental situations. Models of counseling children, models of parent education, and models of parent and school interaction, ethical and legal responsibilities in regard to children, and current research presented. <strong>Prerequisites</strong> Graduate standing or consent of instructor.</td>
</tr>
</tbody>
</table>
EPY 707  Credits 3  
Adolescent Development
Examines physical, cognitive, social, and moral development of adolescents. Theories of identity development, including ethnic identity development, and their applications to counseling, education, and curriculum development discussed. Social relations, aspects of sexuality, and special problems/issues of adolescence.

EPY 708  Credits 3  
Human Learning and Development
Graduate-level introduction to basic concepts in educational psychology with emphasis on development, learning, and motivation.
Prerequisites
Undergraduate degree not in behavioral science or consent of instructor.

EPY 709  Credits 3  
Classroom Assessment
Compares and contrasts traditional and alternative assessment procedures including factors such as: philosophical basis, purposes, roles of teacher, student and administrators, interpreting and reporting results, and strengths and limitations. The role of assessment in promoting learning also discussed.
Prerequisites EPY 707 or EPY 708 (may be concurrent) or consent of instructor.

EPY 710  Credits 3  
Survey Methods and Design
Systematic analysis of survey design and research conducted using survey techniques with emphasis on how to effectively plan and conduct mail, electronic, and other self-administered.
Prerequisites EPY 702 or consent of instructor.

EPY 711  Credits 3  
Human Growth and Development
Emphasis on implications of human growth and life-span development (childhood through adulthood) for counseling, research and instruction. Topics include prenatal development and birth, death and dying, and physical, perceptual, cognitive, moral, personality, and language development. Prerequisites EPC 701 or consent of instructor.

EPY 712  Credits 3  
Foundations of Learning and Cognition
Systematic analysis of concepts and principles of human learning with emphasis on their application to instruction and counseling. Topics include classical and operant conditioning, information-processing and memory, the neurophysiology of learning, and personality and social factors in learning.

EPY 716  Credits 3  
Evaluation Research Methods
Addresses the definition and purposes of evaluation research including its potential uses and limitations. Examines models of evaluation research and their application in a variety of settings. Notes Students are strongly encouraged to complete EPY 711 prior to enrolling in this course. Prerequisites EPY 702 and 721 (may be taken concurrently).

EPY 717  Credits 3  
Analysis of Applied Learning Principles and Educational Media
Introduction to the processes and products of educational media development/selection through the study of contributions, evaluation criteria, and production requirements essential for optimal learning situations. Includes practice in applying learning principles to educational media.

EPY 718  Credits 3  
Qualitative Research Methodologies
Qualitative approaches to exploring phenomena related to educational and other social contexts. Attention given to theoretical and practical considerations of case studies, ethnographies, participant observation and narrative reports; discussion of criteria for establishing goodness of qualitative studies. Notes Field work using qualitative methods required. Prerequisites EPY 702

EPY 719 Credits 3
Advanced Qualitative Research
Qualitative approaches to exploring phenomena related to educational and other social contexts. Analysis of data and presentation of findings. Specific emphasis on analysis of discourses from participant observation and/or interview data. Notes Field work using qualitative methods may be required. Prerequisites EPY 702 and EPY 718

EPY 720 Credits 3
Research Design in Education
Principles of research design as applied to empirical data with particular emphasis on quantitative data analysis and interpretation. Includes research design, data collection, data analysis and research report. Prerequisites EPY 702, EPY 721 and consent of instructor.

EPY 721 Credits 3
Descriptive and Inferential Statistics: An Introduction
Descriptive indices of central location and dispersion, correlation and regression, hypothesis testing and basic inferential techniques. Emphasis on intuitive understanding and applications in educational/behavioral measurement and research.

EPY 722 Credits 3
Inferential Statistics and Experimental Design
Intermediate- level coverage of inferential statistics and experimental design analysis covering commonly used techniques in educational and behavioral research with computer applications. Prerequisites EPY 721

EPY 723 Credits 3
Theory and Practice of Human Measurement I
Measurement of human characteristics using applications of classical measurement theory and introduction to the more recent item response theory models. Topics include test planning, scaling, item and test construction, item analysis, reliability and validity. Prerequisites EPY 721 (EPY 721 may be taken concurrently).

EPY 724 Credits 3
Theory and Practice of Human Measurement II
Human measurement emphasizing methods of test and trait validation. Topics include factor analysis, discriminant analysis, item response theory, test equating, and current issues in measurement. Prerequisites EPY 721, 722, 723 (EPY 722 may be taken concurrently).

EPY 725 Credits 3
Item Response Theory and Applications
Introduction to item response theory (IRT) and applications. Models and assumptions, item parameter and person ability estimation, scale construction and selected computer applications of IRT to educational measurement. Prerequisites EPY 723 and EPY 724

EPY 726 Credits 3
Advanced Evaluation Research Methods
Addresses application of evaluation research theory and methods through a project-bases
curriculum in order to provide in-depth examination of essential elements of the evaluation process. **Prerequisites**

**EPY 716**

**EPY 728** **Credits 3**  
**Applied Classroom Research**  
Provides students with basic knowledge and skills necessary to conduct research within a classroom. Introduces elements required to begin and conduct an action research project, including purpose/rationale, literature review, data collection, analysis and interpretation, and communicating results. **Prerequisites** EPY 702 or EPY 703 and EPY 718

**EPY 729** **Credits 3**  
**Qualitative Case Study Research**  
Focuses on case studies within education. Students conduct in-depth, naturalistic case studies in educational settings to learn about theory, methodology, and methodological issues relevant to disciplined qualitative case study. Conducting interviews, data collection, coding, and analysis in a qualitative case study design. **Prerequisites** EPY 702 and EPY 718

**EPY 730** **Credits 3**  
**Advanced Research Methods**  
Compares strengths and weaknesses of experimental research designs, using this knowledge to improve design sensitivity. Includes hypothesis testing, threats to validity, power, and effect size. Considers controversies in quantitative research literature. **Prerequisites** EPY 702, EPY 721, and EPY 722 (EPY 722 may be taken concurrently).

**EPY 732** **Credits 3**  
**Multiple Regression and Path Analysis**  
Intermediate-level inferential statistics for experimental and non-experimental educational research covering general linear models including analysis of variance, regression (simultaneous, variable-selection, hierarchical approach), and path analysis, integrated with the use of statistical computer packages. **Prerequisites** EPY 722

**EPY 733** **Credits 3**  
**Multivariate Statistics**  
Advanced-level statistics including commonly used multivariate statistical procedures in educational and behavioral inquiries with computer applications. **Prerequisites** EPY 722, EPY 730 (EPY 730 may be taken concurrently).

**EPY 734** **Credits 3**  
**Latent Variable Models: Factor Analysis and SEM**  
Designed for those who want to become familiar with applied latent variable modeling and popular computer programs used to carry out the analysis. Topics include exploratory and confirmatory factor analysis and structural equation models with observed and/or latent variables and with single or multiple groups. **Prerequisites** EPY 721, EPY 732 or consent of instructor.

**EPY 736** **Credits 3**  
**History of Education in the United States**  
Story of factors and conditions which have been influential in shaping educational thought, ideals, theories, and practices of current American education.

**EPY 737** **Credits 3**  
**Social Foundations in Education**  
Study of schools and other socialization agents as they interact within the community and the larger society. Also includes intercultural education.

**EPY 738** **Credits 3**  
**Interpretive Analysis of Text and Discourse**
Qualitative approaches to text and discourse analysis from different theoretical perspectives will be contrasted. Data from various textual and discourse oriented sources including narratives, audio and/or video tapes, and written artifacts analyzed in depth through hands-on projects. May include use of software programs specific to qualitative data analysis. Prerequisites EPY 702 or 703 and EPY 718, or equivalent.

EPY 741 Credits 3
Essential Relationship Skills for College Teaching
Focuses on developing helping relationships between educators and adult learners. Presents conceptual basis for theories of effective helping, communication skills, conditions and issues affecting helping relationships, educator as reflective practitioner, and self-motivation in adult learners, providing a forum for interdisciplinary interaction common to all helping professionals. Notes May be repeated to a maximum of six credits. Prerequisites Graduate standing.

EPY 745 Credits 3
Categorical/Nonparametric Data Analysis
Introduction to categorical/nonparametric data analysis, for use in small samples or when cases consist of categories or ranks. Topics include contingency tables (including loglinear models), nonparametric tests for ordinal and interval data, logistic and Poisson regression. Notes Project involving analysis of the student's own research data may be required. Prerequisites EPY 721, EPY 722, and EPY 732.

EPY 746 Credits 3
Multilevel Statistical Models: Theory and Application

EPY 747 Credits 3
Large Scale Secondary Data Analysis
Introduction to large scale secondary data analysis. Examination of the promise and pitfalls of working with secondary data sources. Overview of data management and analysis issues. Notes Practical skill development emphasized. Prerequisites EPY 721, EPY 722, and EPY 732.

EPY 749 Credits 3 – 6
Thesis
Notes May be repeated but only six credits applied to the student's program. Grading S/F grading only. Prerequisites EPY 702.

EPY 757 Credits 3
Theory and Philosophy of Educational Psychology
Evolution of psychological learning theories, from their philosophical foundations to the present. Central issues include how psychological constructs such as the mind, knowledge representation, and attention impact learning and changes in our understanding of the nature of these constructs over time. Prerequisites Graduate standing.

EPY 760 Credits 3
Advanced Seminars in School Counselor Education and Practice
Analysis of significant issues in counseling of current and continuing concern. Examination of historical, social, legal and philosophical dimensions of selected problem areas. Prerequisites Consent of instructor.
EPY 767 Credits 3
Human Learning and Cognition
Components of human memory and how these components affect learning. Emphasis placed on recent research and theory in working memory and long-term storage. Instructional implications of research discussed, especially with respect to skill acquisition, development of expertise, and cognitive strategy instruction. Prerequisites Graduate standing.

EPY 768 Credits 3
Problem Solving, Reasoning, and Expertise
Acquisition of reasoning and problem solving expertise. Emphasis on models of memory and learning and their implications for expert performance in a variety of domains. Discusses issues such as creativity and intelligence, implications of the literature on expert performance for teaching and learning. Prerequisites Graduate standing.

EPY 770 Credits 3
Cognition and Instruction
Examines research in the application of cognitive learning principals to instruction in specific domains, particularly reading, writing, mathematics, and science. Research on technological applications especially emphasized. Readings include both foundational and current research. Prerequisites Graduate standing.

EPY 772 Credits 3
Contemporary Philosophies of Education
Intensive critical analysis of leading contemporary philosophies of education and their possible implications for practice.

EPY 777 Credits 3
Cognitive Development
Overview of major theories, issues, and research in cognitive development. Primary emphasis on development of thinking and learning from childhood through adulthood. Prerequisites Graduate standing.

EPY 780 Credits 1 – 12
Individual Instruction
Selected basic problems related to the field of counseling services. a) Testing. b) Curriculum. c) Supervision. d) Counseling. e) Area Problems. f) Research. Notes May be repeated to a maximum of 12 credits.

EPY 781 Credits 3
Research in Educational Psychology
Individual research projects in educational psychology under the direction of a faculty member. Notes May be repeated to a maximum of 12 credits. Prerequisites EPY 702, EPY 721, EPY 722 and consent of instructor.

EPY 782 Credits 3
Independent Study
Independent study of a selected topic in educational psychology under the direction/supervision of a faculty member. Notes May be repeated to a maximum of 12 credits.

EPY 783 Credits 3
Directed Readings in Educational Psychology
In-depth study of a topic through selected readings under the direction of a faculty member. Notes May be repeated to a maximum of six credits. Prerequisites EPY 767

EPY 784 Credits 3
Teaching Practicum
Individual study under the direction of a faculty member focusing on preparing to teach at the college level. Prerequisites EPY 723 or EPY 767 and consent of instructor.

EPY 786 Credits 1 – 4
Applied Assessment in Educational and School Psychology
Application of assessment approaches used for the evaluation of students in school settings. 
Notes: May be repeated to a maximum of four credits.

EPY 787 Credits 1 – 7
Individual Research
Selected basic problems in personnel services. 
Prerequisites EPY 702

EPY 788 Credits 1 – 6
Seminar in EPY
Selected topics in counseling and human development services. a) Principles and practices. b) Individual analysis. c) Occupational information. d) Placement. e) Follow-up evaluation. f) Research. Notes May be repeated to a maximum of six credits. Prerequisites Consent of instructor.

EPY 789 Credits 3 – 12
Seminar in Learning and Cognition
Selected topics in learning and cognition. Exploration of a specific aspect of learning and cognition. Topics may include, but are not limited to: memory, learning theory, motivation, text processing, individual differences, epistemological beliefs. Prerequisites EPY 767 or consent of instructor.

EPY 790 Credits 1 – 3
Research Seminar in EPY
Seminar for the advanced candidate stressing the exploration of current literature and research projects. Prerequisites Consent of advisor and instructor.

EPY 791 Credits 3
Special Topics in Educational Psychology
In-depth study of special topics in educational psychology stressing the exploration of cutting-edge research on the topic. Topics may include, but are not limited to: false memory, goal theory, self-regulated learning, web-based data collection, discourse analysis. Notes May be repeated to a maximum of twelve credits. Prerequisites Consent of instructor.

EPY 793 Credits 3 – 6
Advanced Doctoral Practicum
Advanced practice supervised experience for doctoral students in school psychology and counseling. Notes May be repeated to a maximum of six credits. Prerequisites Consent of instructor.

EPY 794 Credits 3 – 6
Internship
Final activity intended to provide on-the-job experience in developing related competencies. Notes May be repeated to a maximum of six credits. Prerequisites Consent of instructor.

EPY 799 Credits 3–24
Dissertation
Culminating experience that may be: a) traditional, original research, b) field oriented and problem solving, or c) exploratory or generative research. Limited to doctoral candidates. 3-24 credits in increments of three. Notes May be repeated but only a maximum of 24 credits may be applied towards degree. Grading S/F grading only.

EPP 710 Credits 3
Assessment of Intelligence by School Psychologists
Theory and practice in the use of assessment measures for evaluating intellectual abilities of children, youth, and adults. Prerequisites Admission to program or consent of instructor.

EPP 715 Credits 3
Projective, Personality, and Behavioral Assessment by School Psychologists
Assessment devices used by school psychologist to evaluate student's emotional and behavioral status. Prerequisites Admission to program or consent of instructor.

EPP 720 Cred 3
Problems in Child Development
Application of the principles in child growth and development; interpretation of research and theory of school practices relating student personnel services to the resolution of professional problems in the school. Prerequisites Graduate standing or consent of instructor.

EPP 723 Cred 3
Diagnostic and Prescriptive Strategies: Psychopathology
Designed to explore variables and intervention strategies with emphasis on assessment-based interventions and focus on brief counseling theories and techniques for school psychologists and other school-based practitioners. Prerequisites Admission to doctoral program or consent of instructor.

EPP 750 Cred 3
Advanced Test Analysis in School Psychology
Functional and theoretical approach for interpretation and inquiry applications with cognitive and affective scales typical in school-based practice. Emphasis on advanced statistical analysis for synthesizing data in diagnostic and validation studies. Prerequisites Admission to doctoral program or consent of instructor.

EPP 760 Cred 3
Psychoeducational Issues of Diverse Learners
Provides skills needed to work with diverse learners in a psychoeducational setting. The learner will be expected to understand multicultural issues concerning assessment, counseling, second-language acquisition, and/or general cultural diversity. Prerequisites Admission to program or consent of instructor.

EPP 710 Cred 3
Role and Function of the School Psychologist
Primarily designed for prospective school psychologists but also for those interested in field of school psychology. In-depth survey of field with its related problems and issues. Local, regional, and national issues studied from a practical field perspective. Prerequisites Consent of instructor.

EPP 762 Cred 3
School Psychology Intervention with Practicum
Supervised practice with children in school and clinic settings with intervention recommendations. Notes May be repeated up to a maximum of nine credits. Prerequisites Admission to program and consent of instructor.

EPP 763 Cred 3
Psychoeducational Academic and Diagnostic Assessment
Teaches students how to effectively perform psychological, academic, and diagnostic testing as part of a general psychoeducational evaluation. Students will also be given skills in diagnosing educational and psychological disorders. Prerequisites Admission to program or consent of instructor.

EPP 764 Cred 1
School Psychology Seminar
Review of issues and research in the field of school psychology. **Notes** May be repeated to a maximum of four credits. **Prerequisites** Consent of instructor.

**EPP 765**  
**Credits 1 – 9**  
**Advanced Assessment Seminar:**  
Designed to provide functional skills in assessment in the diagnosis and evaluation phase of counseling to provide skills in the administration, scoring, and interpretation of clinical instruments. **Prerequisites** Admission to program or consent of instructor.

**EPP 766**  
**Credits 2**  
**School Psychology Professional Paper**  
Scholarly paper on a topic pertinent to the profession of school psychology. **Prerequisites** Admission to program and consent of instructor.

**EPP 767**  
**Credits 3**  
**School-Based Neuropsychological Assessment**  
Provides functional skills in neuropsychological assessment for school psychologists with attention to organization of the human nervous system, brain-behavior relationships, and developing recommendations for instructional interventions based on neurocognitive strengths and weaknesses.

**EPP 769**  
**Credits 3**  
**Internship in School Psychology**  
Supervised school-based experience as a school psychologist intern. **Notes** May be repeated to a maximum of six credits. **Prerequisites** EPP 761 (may be taken concurrently).

**EPP 773**  
**Credits 2**  
**Social Science Contributions in Education**  
Utilization of theory, data, and methodology from various social sciences to gain an appreciation and understanding of the forces and interactions among societies, institutions, and individuals in the realm of educational theory and pedagogy. a) Anthropological perspectives. b) Sociological perspectives. c) Economic perspectives. **Notes** May be repeated to a maximum of four credits. **Prerequisites** Consent of instructor.

**EDH 602**  
**Credits 3**  
**Research Based Decision Making**  
This master's level course assists students in how to integrate information from reports, research, surveys, and other forms of data into effective leadership and management decision making processes. The methods and processes for deciphering information will help students detail the strengths and weaknesses of informational sources that administrators commonly encounter. **Notes** (Master's Program)

**EDH 604**  
**Credits 3**  
**Management Communications**  
Master's level course on the administrative and communication aspects of effective leadership within a higher education setting. Equips students with the tools necessary to be effective communicators with various audiences via letters, memorandums, E-mail messages, presentations, and meetings. **Notes** (Master's Program)

**EDH 605**  
**Credits 3**  
**Introduction to Colleges and Universities**  
Master's level course that provides an introduction to the purposes, goals, and structures of institutions of higher education. Provides a broad view of managerial functions and an understanding of organization, finance, and other issues related to college administration. **Notes** Master's program

**EDH 607**  
**Credits 3**  
**Leadership Development Seminar**
Analyzes leadership functions related to educational organizations, leadership and management theory and the impact of human resources. Special emphasis placed on use of teams in higher education.

**EDH 608**  
**Credits 3**  
**HE Law-Masters**  
Informs students of various legal authorities and their impact on higher education and administration. Includes review and analysis of legal dictates including federal and state constitutions, statutes, case law policies, and administrative rules. **Notes** (Master's Program)

**EDH 609**  
**Credits 3**  
**Leading Multicultural Organizations**  
Provides students with opportunity to reflect on experiences, examinations of theory, and practical application of organizational leadership within the context of diversity.

**EDH 610**  
**Credits 1**  
**Master's Capstone Experience**  
Provides an integrative, synthesizing experience for students culminating in a written examination or an Option II Paper. Draws on and integrates concepts from previous courses and work experiences to ascertain the big picture perspective of higher education. **Notes** Only one credit may count toward degree plan. **Grading** S/F grading. (Master's Program)

**EDH 618**  
**Credits 3**  
**Facilities Management and Campus Planning**  
This course familiarizes students with facilities management, campus planning, and public/private partnerships. The goal of the class is to increase the awareness and understanding of the topic areas and their impact on both the academic and administrative programs at higher education institutions.

**EDH 619**  
**Credits 3**  
**Institutional Advancement**  
Introduction to fundraising and alumni relations operations in contemporary higher education. Examines the assumptions, models, and methods that characterize fund and friend raising. Students will develop a context within which to evaluate the effectiveness of IA programs.

**EDH 624**  
**Credits 3**  
**Readings in Student Personnel Issues**  
Explores in detail all aspects of college student personnel work by conducting an extensive review of writings related to theory, practice, and program management. **Prerequisites** Consent of instructor.

**EDH 626**  
**Credits 3**  
**College Student Personnel Services**  
Introduction to the field of college student personnel services and the role of CSPW within institutions of higher education. Reviews development of the profession and assessment of current developments.

**EDH 627**  
**Credits 3**  
**Student Learning and Development**  
Explores how students learn and develop. Strategies to facilitate learning by college students analyzed. Focuses on application of student development theory.

**EDH 630**  
**Credits 3**  
**Program Evaluation, Planning & Assessment**  
Familiarizes students with the relationship between campus environment and student learning.

**EDH 690**  
**Credits 3**  
**Masters Internship**  
Individually structured program designed to enroll the student in an administrative unit or
academic experience under the joint supervision of a practicing administrator or faculty member and a university professor. Notes Repeatable to six credits. Grading S/F grading only.

EDH 691 Credits 3
Masters Independent Study
Research in area of unique interest in college student personnel work. Research conducted in cooperation with instructor. Notes Repeatable to six credits. Corequisite Consent of instructor.

EDH 703 Credits 3
History of American Higher Education
Surveys the history of American higher education in the United States with a focus on two-year and four-year institutions, public and private. Begins with its traditional liberal arts origin through the growth of the community college and American research university. Explores how various groups changed the structure of higher education and the challenges these changes created. Prerequisites Master's consent of instructor.

EDH 705 Credits 3
HE Law-Doctoral
Designed for graduate students preparing for leadership positions in public schools. Prerequisites Consent of instructor.

EDH 706 Credits 3
Foundations of American Higher Education
Assists graduate students in higher education in developing understanding of and appreciation for philosophical and sociological contexts that provide foundation for present system of higher education in America.

EDH 707 Credits 3
Designing & Critiquing Research In Education
Helps Ph.D. students become more thoughtful about the goals and methods of educational research. Develops in-depth understanding of research design and awareness of issues considered when critiquing research findings.

EDH 708 Credits 3
The American Community College
Development of the contemporary community, junior, and technical college. In-depth examination of history, philosophy, curriculum, and structure of the two-year college. Includes related curriculum topics. Prerequisites Consent of instructor.

EDH 709 Credits 3
Seminar in the Economics of Higher Education
Designed to expose students to the basic principles of micro economics and fundamental economic theories that tie to education. Students have opportunity to experiment with economics as a tool for examining higher education policy. Prerequisites Consent of instructor.

EDH 710 Credits 3
Finance and Budgeting in Higher Education
For students who expect to spend their careers in higher education. Provides understanding of the principals related to the economics of education including why society invests in colleges and universities.

EDH 715 Credits 3
Theory of Educational Organizations
Intense discussion in understanding how higher educational organizations function. Students examine these roles as they relate to the performance of higher education administrators.

EDH 730 Credits 3
Legal Aspects of Student-University Relationship
Advanced issues course that explores topics relevant to the legal aspect of the student-university relationship. **Prerequisites** Master’s consent of instructor.

**EDH 732**  
**Credits 3 – 6**  
**Readings in Administration of Higher Education**  
Selected readings of literature in higher education; assigned topics in the areas of organization, administration, finance, and/or supervision, agreed upon by both advisor and student. **Notes** May be repeated to a maximum of six credits. **Prerequisites** Consent of instructor.

**EDH 733**  
**Credits 3**  
**Role of Faculty in Higher Education**  
Designed to engage participants in discussion, research, and writing that focuses on college and University faculty. Analyze faculty as people at work in organizations, consider structural and cultural dimensions of faculty work, and examine the condition of the academic profession within changing environmental contexts. **Prerequisites** Masters consent of instructor.

**EDH 735**  
**Credits 3**  
**Law and the Professorate**  
Legal aspects of the relationship between university faculty and the institution. **Prerequisites** Master's consent of instructor.

**EDH 737**  
**Credits 3**  
**Ethical Dimensions of Higher Education Leadership**  
Ethical aspects of the culture, activities, and principles relating to leadership in higher education. Students will explore current ethical issues in the post-secondary education setting and prepare a written project focusing on the ethical principles of a higher education leadership issue. **Prerequisites** Masters consent of instructor.

**EDH 738**  
**Credits 3**  
**Public Policy in Higher and Post-Secondary Education**  
Focuses on decision making and public policy formation in higher education. Roles of state and national policy-making process studied in depth. **Prerequisites** Master’s consent of instructor.

**EDH 739**  
**Credits 3**  
**Advanced Public Policy in Higher and Postsecondary Education**  
Introduces students to philosophical and application tools in which to view public policy. Students will examine higher education policy utilizing these different tools and national databases. **Prerequisites** EDH 792

**EDH 740**  
**Credits 3**  
**Comparative and International Higher Education**  
Familiarizes students with international higher education systems. The goal of the course is to examine the similarities and differences of the international systems as they relate to higher education in the United States. **Prerequisites** Master's consent of instructor.

**EDH 742**  
**Credits 3**  
**Academic Governance in Higher Education**  
Theoretical and working knowledge of politics in higher education. Students gain appreciation, understanding and critique of politics and its influences on policy formation. **Prerequisites** Master's consent of instructor.

**EDH 745**  
**Credits 3**  
**Institutional Planning in Higher Education**  
Familiarizes students with institutional planning in higher education with a focus on issues including academic strategy, university
management, institutional competition, program evaluation/assessment, and program/institutional accreditation. Planning issues at community colleges, private four-year institutions, and public four-year institutions will be examined.

**EDH 750**  
**Credits 1-3**  
**Special Topics in Higher Education**  
Exposes students to and helps them understand special topics that impact and influence higher education. Variety of special topics offered: student financial aid, enrollment management, academic organization and leadership, and student diversity. Notes May be repeated to a maximum of nine credits. Prerequisites Consent of instructor.

**EDH 769**  
**Credits 3**  
**Diverse Student Populations in Higher Education**  
Investigates traditional assumptions, including that college makes a difference and explores student-related issues, study of campus cultures, and study of diverse student populations.

**EDH 780**  
**Credits 3**  
**Seminar: Teaching in Higher Education**  
Weekly seminars in organization, materials, and procedures related to working with college-level students. Includes survey of various teaching techniques, evaluation, and general patterns of instruction.

**EDH 785 A**  
**Credits 3 – 9**  
**Practitioner Experience Seminar**  
Follows a three-course sequence that combines seminar discussions along with limited practical experience in an administrative office or department of a postsecondary institution. The three seminars center on academic affairs, student services and finance, and administration. Prerequisites Completion of doctoral core. (Ed.D. Program)

**EDH 785 B**  
**Credits 3 – 9**  
**Practitioner Experience Seminar**  
Follows a three-course sequence that combines seminar discussions along with limited practical experience in an administrative office or department of a postsecondary institution. The three seminars center on academic affairs, student services and finance, and administration. Prerequisites Completion of doctoral core. (Ed.D. Program)

**EDH 785 C**  
**Credits 3 – 9**  
**Practitioner Experience Seminar**  
Follows a three-course sequence that combines seminar discussions along with limited practical experience in an administrative office or department of a postsecondary institution. The three seminars center on academic affairs, student services and finance, and administration. Prerequisites Completion of doctoral core. (Ed.D. Program)

**EDH 790**  
**Credits 3**  
**Doctoral Internship**  
Individually structured program designed to enroll the student in an administrative unit or academic experience under the joint supervision of a practicing administrator or faculty member and a university professor. Notes Repeatable to six credits. Grading S/F grading. Prerequisites Internship-doctoral.

**EDH 791**  
**Credits 3**  
**Doctoral Independent Study**  
Research in area of unique interest in college student personnel work. Research conducted in cooperation with instructor. Notes Repeatable to six credits. Prerequisites Consent of instructor.

**EDH 796**  
**Credits 3**
Dissertation Proposal Preparation
Acquaints students with resources available to graduate students in conceptualizing, proposing, conducting and reporting research proposals.

Prerequisites Successful completion of comprehensive examination.

EDH 799 Credits 1 - 3
Dissertation
Culminate research analysis and writing toward completion of dissertation and subsequent defense. Prerequisites Limited to doctoral candidates, consent of instructor.
Educational and Clinical Studies

The Department of Educational and Clinical Studies offers graduate degree programs at the master’s, specialist, and doctoral levels in special education. All graduate programs are designed to provide the professional experiences required by teachers, specialists, administrators, and future professors of special education.

Chair
Pierce, Thomas B.  
(1990), Professor; B.S., State University of New York, Fredonia; Ph.D., University of New Mexico.

Graduate Coordinators
Cross, William E. Jr.  
(2008), Professor; B.A., Denver University; Ph.D., Princeton University.

Miller, Susan  
(1991), Professor; B.S., Florida Southern College; M.Ed., Ph.D., University of Florida.

Tannock, Michelle T.  
(2006), Assistant Professor; B.A., M.Ed., Ph.D. University of Victoria.

Graduate Faculty
Ashley, Larry  
(2002), Associate Professor in Residence; B.S. in Ed., MA., Central Michigan University; Ed.S., University of Toledo.

Astramovich, Randall  
(2002), Assistant Professor; B.A., M.Ed., Ph.D., University of North Texas Ph.D.

Brinson, Jesse A.  
(1989), Associate Professor; B.A., Clark College; M.A., University of the District of Columbia; Ed.D., Western Michigan University.

Brown, Nancy  
(1992), Faculty in Residence; B.S., M.Ed., Utah State University.

Carruthers, Cynthia  
(1990), Professor; B.S., M.S., Ph.D., University of Illinois.

Filler, John  
(1989), Professor; B.A., Randolph Macon College; M.A., Wake Forest University; Ph.D., Vanderbilt University.

Gelfer, Jeffrey  
(1989), Professor; B.A., Wilmington College; M.S., University of Oregon; Ph.D., Florida State University.

Harris, Katrina  
(2010), Visiting Lecturer; B.A., Stephens College; M.Ed., Ph.D., University of Nevada, Las Vegas.

Higgins, Amanda Kyle  
(1991), Professor; B.A., M.A., Ph.D., University of New Mexico.

Hoskins, Wendy  
(2003), Assistant Professor; B.A., William Penn College M.A., Truman State University; Ph.D., Idaho State University.

Lyons, Catherine  
(2007), Assistant Professor; B.S., St. Francis College; M.Ed., Ph.D., University of Nevada, Las Vegas.

Morgan, Joseph  
(2009), Visiting Lecturer; B.A., University of Illinois at Chicago; M.Ed., University of Nevada, Las Vegas.

Pehrsson, Dale-Elizabeth  
(2007), Associate Professor; B.S., University of the State of New York, M.Ed., Idaho State University, M. Coun., Idaho State University, Ed.D., Idaho State University.

Ramirez, Maria G.  
(1989), Associate Professor; B.S., M.A., Texas A&I University; Ph.D., University of Kansas.

Sileo, Nancy M.  
(1998), Professor; B.A., National University; M.Ed., University of Hawaii, Manoa; Ed.D., University of Northern Colorado.
Smith, Shannon  
(2003), Associate Professor; B.A., Eastern Bible College M.A., Ashland College; Ph.D., Oregon State University.

Strawser, Sherri  
(1991), Professor; B.S., Indiana University; M.S., Saint Francis College; Ph.D., University of Utah.

West, Glenn  
(2009), Visiting Professor; B.A., San Diego State University; M.A., University of North Carolina-Chapel Hill; M.S., University of Kentucky; Ph.D., University of North Carolina-Chapel Hill.

Whitby, Peggy  
(2009), Assistant Professor; B.A., St. Cloud State University; M.A., University of Houston, Clear Lake; Ph.D., University of Central Florida.

Programs

- Addiction Studies Certificate
- Clinical Mental Health Counseling M.S.
- Mental Health Counseling Certificate
- School Counseling M.Ed.
- Special Education and Early Childhood M.Ed.
- Special Education and Early Childhood Ph.D.

Addiction Studies Certificate

The Advanced Graduate Certificate in Addictions Studies meets the needs of health professionals such as marriage and family therapists, community counselors, rehabilitation counselors, school counselors, physicians, psychologists, social workers, and behavioral health therapists by providing graduate addiction training to help them address client needs.

For admission and degree requirements go to Counselor Education.

Clinical Mental Health Counseling M.S.

The Clinical Mental Health Counseling program, a 60-credit hour course of study, is designed to train professional counselors for work in a variety of community and mental health settings. Community mental health counselors work in local, state, and federal agencies, as well as private for-profit and non-profit agencies.

The Clinical Mental Health Counseling M.S. degree in Counselor Education offers a unique arena for the development of counseling theory and in depth research in issues impacting community and mental health, as well as continuing the development of professional counselors to meet the diverse needs of Southern Nevada, the region, and the nation.

For admission and degree requirements go to Counselor Education.

Mental Health Counseling Certificate

The Advanced Graduate Certificate in Mental Health Counseling is targeted primarily toward those individuals who have graduated from CACREP accredited or equivalent programs, but do not meet the necessary educational requirements for the LPC in the State of Nevada.

Certificate Requirements

To earn a certificate, students must have a grade point average of 3.00 or better in each course. Students who receive an F or more than two Cs will
be separated from the program. A minimum of six semester hours of credit must be taken each semester, including summer.

For admission and degree requirements go to Counselor Education.

School Counseling M.Ed.

The master’s degree in School Counseling at UNLV requires a minimum of 48 graduate semester credits and prepares educational professionals who work to meet the academic, career, personal, and social needs of culturally and linguistically diverse K-12 student populations. The program prepares school counselors to fulfill the following roles: 1) Serve as advocates, educational leaders, team members, consultants, and counselors to maximize opportunities for students to succeed academically; 2) Address the academic, career, and personal/social needs of all students in the school; 3) Serve as leaders of equity and achievement and be able to address institutional and environmental barriers impeding student progress; 4) Through the collection and dissemination of data, advocate for systemic change to promote student achievement and academic success; and 5) Become managers of resources and partnership builders, enlisting the support of parents, agencies, and community members.

For admission and degree requirements go to Counselor Education.

Special Education and Early Childhood M.Ed.

Admission Requirements

In addition to meeting the admission requirements of the Graduate College, as outlined in the front of this catalog, applicants must also meet the requirements established by the Department of Special Education and Early Childhood. They are:

1. A minimum grade point average of 2.75 for all undergraduate work or a 3.00 grade point average for the last two years of undergraduate work. Admission to a master’s degree program in special education requires that students with a GPA of less than 2.75 be admitted to the graduate program with provisional status; and

2. A letter of application/intent. Applications are processed when all credentials required by both the Graduate College and the Department of Special Education and Early Childhood have been received by the Graduate Coordinator. The Graduate Coordinator evaluates the applicant’s credentials and recommends either 1) admission to full, contingency, or provisional graduate standing (depending on the strength of the applicant’s academic credentials); or 2) denial. Those who wish to begin studies but who miss the application deadline may enroll as a non-degree graduate student. However, since there is no guarantee that courses taken as a non-degree student will count toward degree requirements, candidates are urged to seek advisement prior to registering for any courses.

Advisor Assignment and Program of Studies

The Graduate College will provide official written notification of acceptance, including the advisor's name. Students are responsible for contacting their advisors.

Degree Requirements
All graduate students are held responsible for the requirements and academic policies established by the Graduate College and outlined in catalog. In addition, the Special Education and Early Childhood Department has established requirements for each of its degree offerings. While these requirements may be obtained from an academic advisor, they are briefly outlined here.

All master’s degree programs require a minimum of 36 semester hours of approved studies and an overall minimum GPA of 3.00 in all courses counted toward the degree. A thesis and its defense are the culminating activity for the M.S. A comprehensive examination is the culminating activity for the M.Ed.

Master’s degrees must be completed within a six-year period and continuous enrollment must be maintained throughout the six years, unless a formal request for a leave of absence is approved by the department and Graduate College.

**Degree Requirements: Master of Education**

The M.Ed. degree requires at least 36-semester credit hours. Students must complete a minimum of 18 credit hours with the ESP or ECE prefix, and complete:

EPY 702 - Research Methods. In addition, students must complete and pass a comprehensive examination. The comprehensive examination is taken during the student's last semester of coursework or in the semester immediately following completion of coursework listed on the student's Program of Studies. If students opt to take the comprehensive exam the semester after completion of the coursework listed on their Program of Studies, they must enroll in ESP 766 or another graduate course. Per Graduate College Guidelines, students must be enrolled in coursework the semester they graduate.

Students must apply to take comprehensive examinations. Specific application deadlines are available in the Department of Special Education and Early Childhood.

**Degree Requirements: Master of Science**

The M.S. degree requires at least 36-semester credit hours, including EPY 702. Students must complete a minimum of 18 credit hours with the ESP prefix. In addition, students must complete and defend a thesis.

**Program Options: M.S. and M.Ed.**

M.Ed. and M.S. programs can be designed to meet the needs of persons who hold a baccalaureate degree and wish to earn a master's degree in special education or early childhood education, with or without licensure. Students are expected to develop a plan of study that is most relevant to their educational purposes; ESP 722 - Multicultural Perspectives in Special Education and EPY 702 - Research Methods are required by the department for all plans of study. Students seeking a license to teach should be aware that certification or endorsement requirements might limit their choices. A number of specific focus areas are available and can lead to the following Nevada Department of Education endorsements: Autism, Early Childhood, Early Childhood Special Education, Emotionally disturbed, Generalist-Mild Disabilities, Gifted and Talented, Learning Disabilities, Mental Retardation, Teaching English as a Second Language; or other professional areas, such as Applied Behavioral Analysis.

Previous coursework included in submitted graduate plans of study must have a grade of B or better. Only two subsequent grades of less than B- (one with an ESP or ECE prefix and one with any other prefix) will be permitted in a submitted plan of study. Under no circumstances will a Grade Point Average (GPA) of less than 3.00 be allowed on a finished plan of study. Failure to meet these standards will result in suspension from the degree program.

**Special Education and Early Childhood Ph.D.**
The Doctor of Philosophy Degree (Ph.D.) is designed with an emphasis in the development of skills in scientific inquiry and leadership. Students enrolled in this study program gain an understanding of philosophy and theory as they relate to the conduct of research and program evaluation. Graduates pursue careers in schools, institutions of higher education, research centers and agencies that require the competencies developed through a Ph.D. course of study.

Admission Requirements

Applicants to the Ph.D. program in special education and early childhood must complete the Graduate College Application for Admission and arrange to have official transcripts sent to the Graduate College. Graduate level transcripts should indicate grade point averages (and receipt of a post baccalaureate degree in special education or a related field). The following materials also should be submitted through the online application network.

1. A letter of application that clearly articulates professional and research goals that are related to the focus of the Ph.D. degree program in Special Education and Early Childhood;

2. Three letters of recommendation -- at least one from an individual familiar with the applicant’s academic performance and potential for doctoral degree completion and at least one from an individual knowledgeable of the applicant’s quality of work experience;

3. Representative samples of scholarly writing, preferably in APA style, and/or other media samples related to professional study;

4. A resume of professional preparation and experience (a minimum of two to three years of professional experience in special education, general education or other relevant field as a teacher, administrator or related service provider for children and adults with disabilities and/or giftedness is preferred);

5. Scores from the verbal, quantitative and analytical sections of the Graduate Record Examination (GRE) (taken within five years from the date of application for admission). Applicants should arrange to have official notification of GRE scores sent to the Department of Special Education and Early Childhood. The department does not impose minimum GRE scores.

It is the student’s responsibility to ensure that his/her applicant file is complete. Incomplete files will not be considered. Application materials for U.S. residents requesting financial support are due March 1.

Note: The department admissions committee may request additional materials and/or conduct a personal interview after reviewing initial applicant files.

In general, applicants will be expected to have a 3.50 grade point average on all graduate-level work and an indication of potential to complete all requirements of doctoral study successfully (provided through submitted writings or creative products, letters of recommendation and GRE results) to be admitted as doctoral students in the Department of Special Education and Early Childhood.

After Admission Committee review, the Doctoral Program Coordinator may recommend to the department faculty that the applicant be: 1) admitted fully to the Ph.D. program in special education, 2) admitted provisionally to the Ph.D. program or 3) denied admission to the Ph.D. program in special education. A recommendation for provisional admission may occur when an applicant has not met the criteria or prerequisites to do advanced graduate level work. Provisional admission requires the satisfactory completion (e.g., with a minimum 3.50 grade-point average) of nine or more hours in regularly scheduled graduate courses approved by the student’s advisor and departmental faculty. After completion of the provisional program, the Doctoral Coordinator and Department Chair recommend to the Graduate College that the student either be transferred to regular status or dropped from the program.
Note:
To apply for a Graduate Assistantship, applicants must complete the Graduate Assistant Application located at http://graduatecollege.unlv.edu/ga/ and send it to the Department of Special Education.

Residency

Doctoral students are required to spend a minimum of two consecutive semesters (Fall-Spring, Spring-Summer or Summer-Fall) in full-time resident study in the Department of Special Education and Early Childhood. Full-time resident study is defined as being enrolled in at least nine semester hours of graduate level course work from an approved Program of Study (six semester hours if the student is a graduate assistant). In cases where residency includes a semester of course work prior to submission of the Program of Study, the advisor must approve residency. Work during residency is allowed. However, if the student is employed as a graduate assistant, any additional work beyond that performed as an assistant must conform to the rules of the University and Graduate College.

Program of Study

The program of study requires a minimum of 72 semester hours. Only credits that meet the following criteria may be included on the formal Program of Study:

1. Those not previously used to fulfill requirements for another degree;
2. Those taken while enrolled at an accredited graduate degree-granting institution in a degree-granting program;
3. Those taken as a nondegree student (not to exceed 15 total semester hours); and
4. Those for which a grade of B or higher was earned.

In addition, two-thirds of the total semester hours included on the formal Program of Study (not including dissertation) must be taken at UNLV. Faculty members of the Department of Special Education and Early Childhood instructing specialist’s and/or master’s classes initiate an interaction with doctoral students enrolled in these courses regarding the appropriateness of both the content and performance requirements for doctoral students. Students not admitted to the doctoral program in special education and early childhood (or to another doctoral program in the College of Education) may enroll in: ESP 782 - Professional Seminar in Special Education (formerly ESP 760) and two additional Core Curriculum Courses with consent of instructor prior to formal admission.

The Department of Special Education and Early Childhood generally tailors its leadership programs to meet individual student needs and career goals. A content core of courses, however, is required of all Ph.D. doctoral students. This content may not be waived. In addition to the core curriculum, students select concentrations in Leadership Studies and Exceptionality Specialties as appropriate. The requirements for the Ph.D. degree are outlined here:

Degree Requirements

Core Curriculum - Total Semester Hours: 24

Doctoral students must earn a grade of B or higher in all core curriculum courses.

Each doctoral student will complete the core curriculum below:

- ESP 782 - Professional Seminar in Special Education
- ESP 783 - Leadership Seminar in Special Education
- ESP 784 - Seminar in Advanced Special Education Technology
- ESP 785 - Issues, Trends and Futures in Special Education
- ESP 787 - Philosophical Perspectives in Special Education
- ESP 788 - Single Subject Methods in Special Education
- ESP 789 - Grant Writing for Human Services
- ESP 796 - Dissertation Prospectus (To be taken as an independent study supervised by the advisor)

**Research Course Work - Total Semester Hours:** 15

Doctoral Students must earn a grade of B or higher in EPY 721 and EPY 722.

- EPY 721 - Descriptive and Inferential Statistics: An Introduction
- EPY 722 - Inferential Statistics and Experimental Design
- ESP 791 - Proposal Design and Analysis

An additional six semester hours in research selected from courses such as:

- EPY 716 - Evaluation Research Methods
- EPY 718 - Qualitative Research Methodologies
- EPY 733 - Multivariate Statistics
- EPY 790 - Research Seminar in EPY
- KIN 752 - Selected Application of Statistical Techniques II

**Research Internship - Total Semester Hours:** 3

ESP 794 A-C - Internship in Special Education (A)

**Leadership Studies - Total Semester Hours:** 18*

Doctoral students complete 18 semester hours including:

ESP 794 A-C - Internship in Special Education (B)

Additional leadership courses may be selected from one or more of the following leadership concentrations: Parenting, Administration, Research, Diagnosis/Assessment, Transition, Early Childhood Special Education, Early Childhood Education, Higher Education, Technology, Consultation, or Curriculum.

**Exceptionality Specialties - Total Semester Hours:** 18*

Students complete nine semester hours each in two specialty areas from the following list: Autism, Learning Disabilities, Emotional Disturbance, Mental Retardation, Gifted and Talented Education, Developmental Disabilities/Children at Risk.

Notes: *Hours may be reduced based on student’s previous academic preparation related to leadership studies and exceptionality specialties. However, under no circumstances will the Formal Program of Studies include fewer than 72 semester hours.

**Writing Proficiency**

Students shall be required to demonstrate doctoral-level writing proficiency beginning with the first doctoral seminar: ESP 782 - Professional Seminar in Special Education (formerly ESP 760)

**Dissertation - Total Semester Hours:** 12

Upon completion of course work, doctoral students enroll in 12 semester hours of dissertation credit: ESP 799 - Dissertation

**Colloquium**

The Special Education and Early Childhood Doctoral Colloquium typically is held one Friday each semester. The Doctoral Coordinator coordinates these meetings with the assistance of the special education faculty and doctoral students.

**Doctoral Studies Committee**

Each student is required to select a faculty committee designated as the Doctoral Studies Committee. The committee consists of the student’s advisor, who is to have been selected prior to the time 12 semester hours of course work have been completed, two other faculty members from within the Department of Special Education, and a Graduate College representative. This committee oversees the student’s progress, including the comprehensive examination process. A temporary advisor may be assigned until a new student becomes acquainted with the faculty.

**Comprehensive Examination**

The comprehensive examination is taken during the semester immediately preceding enrollment in ESP 799 Dissertation. The comprehensive examination
consists of 16 hours of written examinations with eight hours structured by the student’s major advisor and eight hours structured by the other internal committee members. The examinations are scheduled on two successive Fridays. The student’s advisor determines the specific dates of the examination. The questions on the comprehensive examination address elements of the Core, Research, Leadership Studies, Exceptionality Specialties, and any course work taken for licensure or endorsements. The student’s Doctoral Studies Committee provides general parameters from which questions are selected. “Take-home” examinations, in whole or in part, are not allowed. Students may use college provided technology for word-processing. Grading consists of three categories: Pass, Fail, and Pass with Distinction. Pass with Distinction occurs contingent upon a unanimous vote of the committee excluding the Graduate College representative.

Dissertation Proposal and Advancement to Candidacy

Upon successful completion of comprehensive examination, the student selects a dissertation committee (i.e., minimum of three faculty members from the Department of Special Education and Early Childhood and an outside member appointed by the Graduate College) and submits a dissertation proposal to the committee. This proposal includes an introduction, review of the literature, and a discussion of study methods. Two weeks after this proposal is submitted to the dissertation committee, the committee meets with the student to accept or reject the proposal, as well as provide a critique of its relative strengths and weaknesses. Upon acceptance of the student’s dissertation proposal, a recommendation for advancement to candidacy is submitted to the Graduate College.

Dissertation Defense

Upon completion of the full dissertation, a defense is scheduled. Students need to obtain The Guide to Preparing and Submitting a Thesis or Dissertation from the Graduate College web site.
**Problem Gambling Counseling II**
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the UNLV Undergraduate Catalog under the corresponding 400 number. **Notes**
Credit at the 600 level normally requires additional work. **Prerequisites** CED 639

<table>
<thead>
<tr>
<th>CED 645</th>
<th><strong>Credits 3</strong></th>
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<tr>
<td>Trauma and Addiction</td>
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Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the UNLV Undergraduate Catalog under the corresponding 400 number.

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<tr>
<th>CED 646</th>
<th><strong>Credits 3</strong></th>
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<tr>
<td>Combat Trauma</td>
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Overview of the trauma that is experienced by individuals involved in armed combat situations. The signs and symptoms of such involvement will be explored. In addition, the impact on families and communities will be addressed.

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<tr>
<th>CED 661</th>
<th><strong>Use and Application of Technology in Counseling</strong></th>
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| Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the UNLV Undergraduate Catalog under the corresponding 400 number.

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<tr>
<th>CED 699</th>
<th><strong>Special Topics</strong></th>
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| Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the UNLV Undergraduate Catalog under the corresponding 400 number.

<table>
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<tr>
<th>CED 700</th>
<th><strong>Credits 1 – 6</strong></th>
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<tr>
<td>Special Problems: Counseling and Educational Psychology</td>
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</table>
Specialized instruction in general professional education designed to develop depth in understanding of current counseling and educational psychology problems. **Notes**
May be repeated to a maximum of six credits.
Examination of major counseling theories and consultation techniques for application in individual and group settings. **Prerequisites** EPY 701 and admission to the department.

CED 721 Career Theories and Practices
Survey of current theories and practices in career counseling. Emphasis on values and decision-making process. Meets program requirements for school, community, and rehabilitation counseling. **Prerequisites** CED 701

CED 722 Introduction to Child Counseling & Play Therapy
This course is designed as an examination of play therapy theories and interventions usable by professional counselors, social workers, marriage and family therapists, psychologists, nurses, mental health and related professionals who work with children.

CED 727 Counseling Process and Procedures
Students learn the necessary skills to establish counseling relationships, identify relevant counseling issues, and translate their understanding into an action plan for promoting lasting change. Stages of the counseling process identified, practiced, and applied. **Prerequisites** CED 701

CED 731 Social Justice and Advocacy in Counseling
Seminar course designed to foster awareness, knowledge, and skills for counseling with diverse clients. Emphasizes social justice and advocacy in counseling with minority and oppressed students. Topics include culture, ethnicity, nationality, age, gender, sexual orientation, mental and physical abilities, education, family dynamics, and socioeconomic status.

CED 732 Advanced Multicultural Counseling
This course is designed to help students develop awareness, knowledge, skills for more effective work with culturally diverse groups and individuals. Substantial attention will be given to intrapersonal issues, concerns related to different cultures & programming in a variety of settings.

CED 733 Introduction to Group Counseling
Study and practice of basic approaches to group procedures in relation to group goals, group dynamics and group leadership. **Prerequisites** CED 701 and EPY 723

CED 735 Substance Abuse Prevention and Treatment
Overview of physiological and interpersonal impacts of substance abuse. Emphasis on empirically validated prevention programs, substance abuse assessment, counseling techniques, referral information, aftercare, and relapse prevention strategies. **Prerequisites** CED 701

CED 737 Introduction to Community Mental Health Counseling
Introduction to community and rehabilitation counseling including historical, philosophical legislative and organizational bases; rehabilitation process, and services in public and private community settings. Emphasis on role and function of the counselor.

CED 739 Vocational Placement and Community Resources
Study of vocational placement techniques along with an understanding of community resources including community organizational theory and criteria for use of such facilities in the vocational adjustment and placement of the disabled and disadvantaged.

CED 741 Practicum
Supervised counseling practice in human service settings including work with individuals and groups. Emphasis on utilizing a variety of counseling skills and methods with diverse
client populations. Prerequisites CED 701, CED 727, CED 733 and EPC 723

CED 742 Credits 3
Introduction to Community Counseling
Provides information concerning the professional role, function, history, philosophy and practice of counseling. Role of the community-agency counselor in community, clinical, education, and business settings, as well as their interactive relationship with other professionals. Notes Normally taken no later than two semesters following admission to the program. Prerequisites MFT 701 and admission to the department.

CED 743 Credits 3
Ethical and Legal Issues in Counseling
Overview of ethical, legal, and professional issues in counseling. Emphasis on best practices and ethical decision making models. Prerequisites CED 701

CED 745 Credits 3
Assessment, Treatment, and Case Management in Addictions
Provides theoretical framework for assessing and treating individuals with addictive disorders and the practical application of managing a client's case from initial treatment stages through discharge and aftercare. Prerequisites MFT 731

CED 746 Credits 3
Supervised Practicum in Group Counseling
Supervised practice in counseling with small groups in a variety of settings. Notes May be taken concurrently with EPY 744. Prerequisites MFT 701, CED 715 and EPY 724, or equivalent.

CED 749 Credits 3
Thesis
Culminating masters level research project. Notes May be repeated, but only six credits will apply to students program of study. Prerequisites Consent of instructor.

CED 750 Credits 1 – 3

Advanced Seminars in School Counseling
Advanced studies in professional school counseling practice, theory, and research. Topics may include innovative practices, supervision, evaluation, techniques, and theory of school counseling. Notes May be repeated to a maximum of twelve credits.

CED 751 Credits 1
Internship in Counseling I
Advanced supervised counseling practice in human service settings. Provides the opportunity to engage in all of the activities of a regularly employed staff member in an organization with program emphasis area. Prerequisites CED 741

CED 752 Credits 1
Internship in Counseling II
Advanced supervised counseling practice in human service settings. Provides the opportunity to engage in all of the activities of a regularly employed staff member in an organization compatible with program emphasis area. Prerequisites CED 741

CED 753 Credits 1
Internship in Counseling III
Advanced supervised counseling practice in human service settings. Provides the opportunity to engage in all of the activities of a regularly employed staff member in an organization compatible with program emphasis area. Prerequisites CED 741

CED 754 Credits 3
Supervised Group Practice and Theory
Group theory and practice as it relates to leadership of personal growth, counseling, and therapeutic groups. Emphasis placed on leadership functions as they relate to group processes. Prerequisites MFT 715, CED 715

CED 755 Credits 3
Planning, Management, and Evaluation of Addictions and Mental Health Programs
Develops skills in applying basic management, planning, and evaluation techniques to addictions and mental health programs. Areas stressed include the relationships between program evaluation, program planning, program
effectiveness, and organizational performance. **Prerequisites** CED 745 or consent of instructor.

CED 758 **Credits 3**
**Independent Study**
Independent study of a selected topic in professional counseling under the direction/supervision of a graduate faculty member. **Notes** May be repeated to a maximum of twelve credits. **Prerequisites** Consent of instructor.

CED 766 **Credits 3**
**Psychopathology and Wellness Models in Counseling**
Overview of psychopathology as classified in the DMS, with an emphasis on diagnosis, supportive psychopharmacology, and counseling interventions. Also overviews wellness models in counseling and highlights ways counselors can promote optimal development and wellbeing with diverse client populations. **Prerequisites** CED 741, CED 753

CED 768 **Credits 3**
**Pre-practicum Laboratory in Counseling**
Laboratory practice in counseling theory and techniques. **Notes** Must be taken concurrently with EPY 753. **Prerequisites** MFT 701, EPY 704 and admission to the department.

CED 770 **Credits 3**
**Advanced Supervised Practice in Counseling**
Theory, research, techniques, and practice of supervising marriage and family therapists. **Notes** May be repeated to a maximum of six credits.

CED 772 **Credits 3**
**Counseling and Spirituality**
Application and integration of sound counseling skills into a spiritually-based counseling approach. Contemporary counseling theories and their assumptions about human nature and the role of spirituality in counseling. **Prerequisites** Consent of instructor.

CED 775 **Credits 3**

**Internship in Mental Health and Addictions Counseling**
Internship in Mental Health and Addictions Counseling, emphasizing counseling skills and techniques with individuals and groups in dual diagnosis settings. Notes Students will complete a minimum of 300 hours, with 150 of the hours being direct contact hours. **Prerequisites** CED 751, CED 752, CED 753

CED 781 **Credits 3**
**Problem Gambling Counseling**
Orient students to relevant literature and theoretical perspectives regarding problematic gambling, including an appreciation of its symptoms, progression, and impact across areas of one's life. Students will be provided with knowledge of current assessment measures and learn empirically-based treatment practices related to problem gambling.

CED 782 **Credits 1 – 6**
**Counseling with Potential Suicides**
Emphasis on the helping skills to facilitate communication with the potential suicide. Principles and techniques to facilitate client self exploration that encourage self understanding and alternate actions. **Prerequisites** CED 754 or consent of instructor.

CED 783 **Credits 3**
**Understanding and Treating Trauma**
This course will orient students to relevant literature and theoretical perspectives regarding psychological trauma, including an appreciation of its symptoms, progression, and impact across areas of one's life. Students will be provided with knowledge of current assessment measures and learn empirically-based treatment practices related to post traumatic and acute stress disorders.

CED 784 **Credits 3**
**Co-Occurring Conditions in Counseling**
This course will orient students to relevant literature and theoretical perspectives regarding co-occurring addictions and mental health concerns, including an appreciation of complex symptoms, progression, and impact across areas...
of one's life. Students will be provided with knowledge of current assessment measures and learn empirically-based treatment practices related to co-occurring disorders.

CED 785 Credits 3
Eating Disorders Counseling
Designed as a comprehensive review of eating disorders, correlated issues, and treatment interventions. Cultural, familial, societal, and personal factors that may contribute to the development and maintenance of eating disorders will be examined.

CED 787 Credits 1 – 6
Individual Research
Individual research on a selected topic in professional counseling under the direction/supervision of a graduate faculty member. Prerequisites Consent of instructor.

CED 789 Credits 1
The Student in Higher Education
Theory and practices related to counseling college students. Emphasis on both traditional and nontraditional approaches to meeting the needs of students at various types of postsecondary institutions. Interrelationship of student and institutional needs within the environment of higher education.

ECE 706 Credits 3
Planning Curriculum for Young Children
Examination of basic principles underlying the development and planning of non-handicapped early childhood education curriculum. Notes Review of components of selected curricular areas.

ECE 707 Credits 3
Programs in Early Childhood Education
Overview of current models of early childhood education. Includes principles, research studies, and current trends as factors related to the education of young children.

ECE 709 Credits 3
Investigations in Early Childhood Education
Current practices and methods in early childhood education investigated and evaluated in depth. Prerequisites Consent of instructor.

ECE 710 Credits 3
Planning and Administering Early Childhood Programs
Investigates the basic principles involved in establishing and operating centers for the young child; examines the historical background of the early childhood education movement; and reviews theories of child development as they relate to planning, operating, and evaluating centers. Prerequisites Consent of instructor.

ECE 711 Credits 3
Science and Math for Young Children
Preparation, by modeling, for presenting and structuring appropriate science activities/experiences for young children (PK-2) with emphasis on integrating process skills with life, earth, and physical science concepts. Prerequisites Nine hours of content science, or consent of instructor.

ECE 722 Credits 3
Theoretical Bases for Early Childhood Education
Examination of the underlying theories and perspectives supporting early childhood education. Emphasis on the theoretical foundations for early childhood education and the application of developmental theories across domains.

ECE 726 Credits 3
Early Education for Infants and Toddlers
Theoretical and practical approaches to early education services for newborns, infants, toddlers, and their families. Development of infants and toddlers within the developmental domains and focuses on attachment, milestones, identification of developmental delays, and program development and evaluation.

ECE 740 Credits 3
Early Language and Learning
Focuses on the theory, research and practice of language development from birth through age
eight. Opportunities to implement your understanding of language development for typically developing children and children with special needs.

**ECE 781**  
Credits 3-8  
**Early Childhood Education Field Experience**  
Includes program planning, implementing lesson plans, guidance of students, and working with families. Candidates will be placed with young children birth to age eight. **Prerequisites**  
Completion of all ECE licensure coursework or consent of instructor.

**ESP 700**  
Credits 1 – 6  
**Problems in Special Education**  
Specialized instruction in special education designed to develop depth in understanding a current educational problem of the in-service teacher. **Notes** Maximum of six credits accepted toward degree from special education courses in EPY 700, ESP 700, and ICG 700.

**ESP 701**  
Credits 3  
**Introduction to Special Education and Legal Issues**  
Survey of the characteristics, training, and educational needs of students with disabilities. Designed for graduate students in special education, general education, nursing, counseling, psychology and related fields. **Notes** Required of all students in the Generalist Program who do not have a bachelor's degree in special education.

**ESP 702**  
Credits 3  
**Psychological and Social Problems in Intellectual Disabilities**  
Study and interpretation of theories and research on the learning characteristics of person with intellectual disabilities: psychological and social contributions to educative/habilitative solutions in intellectual disabilities.

**ESP 703**  
Credits 3  
**Prescriptive and Precision Teaching with Intellectual Disabilities**  
Cognitive, adaptive, and diagnostic-prescriptive instructional strategies and behavioral interventions for persons with intellectual disabilities and diverse educational and community settings.

**ESP 704**  
Credits 3  
**Adaptive Curricular Programming for Persons with Intellectual Disabilities**  
In-depth analysis and application of curricular development and implementation for persons with intellectual disabilities in diverse educational settings.

**ESP 705**  
Credits 3  
**Psychological and Sociological Problems of Students with Emotional Disabilities**  
Study and interpretation of theories and research concerning learning characteristics and psychological and social aspects of the student with emotional disabilities within the school setting.

**ESP 706**  
Credits 3  
**Advanced Educational Strategies for Students with Emotional Disabilities**  
Evaluation of the behavioral characteristics of students with emotional disabilities applied to practical classroom strategies. Application of treatment strategies and relevant research to the educational problems of students with emotional disabilities. **Prerequisites** ESP 705

**ESP 707**  
Credits 3  
**Theories of Learning Disabilities**  
Study of the contemporary positions regarding learning disabilities. Curricular implications of positions emphasized.

**ESP 708**  
Credits 3  
**Advanced Education Strategies for Students with Disabilities**  
Advanced instructional methods and procedures applicable to the education of children with learning disabilities. **Prerequisites** ESP 701 or 707

**ESP 709**  
Credits 3  
**Diagnostic and Prescriptive Assessment for Diverse Learner**
Establishment of educationally relevant diagnostic and prescriptive teaching procedures for students who are learners (i.e., students with/or at-risk for disabilities, including those who are second language learners). Emphasis upon both individual and group prescriptive classroom methodologies. **Prerequisites** ESP 701 or 708

**ESP 712**  
Credits 3  
**Applied Behavior Analysis**  
Evaluation of the application of behavior analysis in classroom, clinical, and consultative settings. Includes definition and characteristics of applied behavior analysis, basic principles of behavior, measurement and observation procedures, evaluation and analysis of behavior change, procedures for increasing and decreasing behavior, and systems applications.

**ESP 713**  
Credits 3  
**Affective Assessment Models**  
Study of affective behavioral testing procedures applicable to children and adolescents in public school settings. Emphasis on classroom observational techniques, as well as supplemental employment of data obtained through school relevant behavior rating scales and checklists, task analysis assessments, projective and group personality testing and case studies. **Prerequisites** Consent of instructor.

**ESP 714**  
Credits 3 - 6  
**Advanced Seminar in Learning Disabilities**  
In-depth review of recent developments and research in the field of learning disabilities. **Notes** May be repeated to a maximum of nine credits. **Prerequisites** ESP 607 **Corequisite** ESP 611

**ESP 715**  
Credits 3  
**Communication Programming for Persons with Severe Disabilities**  
Critical study of disorders affecting communication of persons with severe disabilities. Emphasis on developmental considerations, ecological needs, clinical assessment, selection and implementation of augmentative systems, support services, funding, and research. **Prerequisites** Consent of instructor.

**ESP 717 A**  
Credits 1 – 9  
**Seminar in Advanced Curriculum Development**  
Critical study of current curricular models in special education. Areas of emphasis: mental retardation. **Notes** May be repeated to a maximum of nine credits. Maximum of nine credits may be applied to a graduate program. **Prerequisites** ESP 701

**ESP 717 B**  
Credits 1 – 9  
**Seminar in Advanced Curriculum Development**  
Critical study of current curricular models in special education. Areas of emphasis: emotional disturbance. **Notes** Maximum of nine credits may be applied to a graduate program. May be repeated to a maximum of nine credits.

**ESP 717 C**  
Credits 1 – 9  
**Seminar in Advanced Curriculum Development**  
Critical study of current curricular models in special education. Areas of emphasis: learning disabilities. **Notes** Maximum of nine credits may be applied to a graduate program. May be repeated to a maximum of nine credits.

**ESP 717 D**  
Credits 1 – 9  
**Seminar in Advanced Curriculum Development**  
Critical study of current curricular models in special education. Areas of emphasis: early childhood special education. **Notes** Maximum of nine credits may be applied to a graduate program. May be repeated to a maximum of nine credits.

**ESP 717 E**  
Credits 1 – 9  
**Seminar in Advanced Curriculum Development**  
Critical study of current curricular models in special education. Areas of emphasis: adaptive physical education. **Notes** Maximum of nine credits may be applied to a graduate program. May be repeated to a maximum of nine credits.
ESP 717 F  
Seminar in Advanced Curriculum Development  
Critical study of current curricular models in special education. Areas of emphasis: parent education. Notes: Maximum of nine credits may be applied to a graduate program. May be repeated to a maximum of nine credits.

ESP 717 G  
Seminar in Advanced Curriculum Development  
Critical study of current curricular models in special education. Areas of emphasis: gifted education. Notes: Maximum of nine credits may be applied to a graduate program. May be repeated to a maximum of nine credits.

ESP 717 H  
Seminar in Advanced Curriculum Development  
Critical study of current curricular models in special education. Areas of emphasis: career education. Notes: Maximum of nine credits may be applied to a graduate program. May be repeated to a maximum of nine credits.

ESP 717 I  
Seminar in Advanced Curriculum Development  
Critical study of current curricular models in special education. Areas of emphasis: management and staff direction. Notes: Maximum of nine credits may be applied to a graduate program. May be repeated to a maximum of nine credits.

ESP 717 J  
Seminar in Advanced Curriculum Development  
Critical study of current curricular models in special education. Areas of emphasis: English Language Learners Notes: Maximum of nine credits may be applied to a graduate program. May be repeated to a maximum of nine credits.

ESP 718  
Assessment of Persons with Severe Intellectual Disabilities  
Emphasis on diagnosis and problems encountered in assessing individuals with severe intellectual disabilities. Practice observation techniques, develop and implement ecological inventories, developmental scales, and adaptive behavior scales. Prerequisites: ESP 702 or consent of instructor.

ESP 719A  
Advanced Oral and Written Language Instruction for Students with Disabilities  
Overview course on language development, disabilities, and delays. Information and specific strategies for identifying oral and written language difficulties in students with disabilities. Emphasis on educational applications -- designing and implementing instruction for students with disabilities. Prerequisites: ESP 701

ESP 719B  
Advanced Oral and Written Instruction Early Childhood  
Methods and curriculum in early childhood literacy and early intervention strategies for inclusive education. Prerequisites: ECE 709

ESP 720  
Field Experience in Special Education  
Supervised experience in designing and using prescriptive teaching programs. Areas of emphasis include: intellectual disabilities, emotional disturbance, learning disabilities, early childhood special education, adaptive physical education, gifted education, parent education, and career education. Notes: Maximum of nine credits may be applied to a graduate program. May be repeated to a maximum of nine credits.

ESP 722  
Multicultural Perspectives in Special Education  
Introduces trends and issues in special education relative to students with disabilities who come
from culturally diverse backgrounds. Educational programming and adaptations emphasized.

ESP 724
Math Methods in Special Education
Credits 3
Effective classroom methods and strategies for assessing, teaching, and monitoring the mathematical performance of students with learning difficulties. Emphasis on practical classroom techniques designed to facilitate skill acquisition, maintenance, retention, and generalization. Computation and problem-solving covered. **Prerequisites** ESP 701, MAT 122 and MAT 123 or equivalent, and consent of instructor.

ESP 725
Credits 1 – 3
Workshops in Special Education
Supervised instruction through workshops and conferences in topics relevant to special education. Emphasis on in-service education for regular and special education personnel. **Notes** May be repeated to a maximum of four credits. **Grading** S/F grading only.

ESP 726
Policy Analysis and Development for Special Human Services
Returns a measurement of policy development and critical analysis of established social policy in local, state, and federal programs and its impact on persons with exceptionalities.

ESP 727
Technology in Special Education
Uses of computers and other technologies in the instruction of students with disabilities. Includes strategies for adapting computers and selecting software for individuals with special needs. Principles for integrating technology into the curriculum and strategies for teaching academic subjects with technology stressed. Overviews of integrated technologies such as hypermedia and access technologies provided. **Prerequisites** ICE 334 or ICG 754 or equivalent.

ESP 728
Credits 3

**Theory of Play Development**
Critical analysis of theoretical, philosophical, empirical, and educational implications of play. Provides planning, integrating and evaluating play in the educational curriculum.

ESP 729
Credits 3
Characteristics of Students with Autism Spectrum Disorders
Survey of the characteristics of students with autism spectrum disorders, including historical foundations, definitions, placement alternatives, and current issues. **Prerequisites** ESP 701 and 733 or equivalent.

ESP 730
Parent Involvement in Special and General Education
Overview of current involvement, rationales for parent involvement, and research that supports it. Focuses on common effort by the school, home and community to provide for students' growth through integrated successive learning experiences that allow for variation in skills, cognitive development, emotional creative abilities, and physical development.

ESP 731
Credits 3
Practicum in Parental Involvement
Advanced practicum to involve teachers with parents of children with special needs in various aspects of special education programming in the home, school, and public agency settings. Development of parent education materials and program for parents, or prospective parents in some of the basic skills necessary for effective parenting. **Prerequisites** ESP 730

ESP 733
Management and Modification of Students with Special Needs
Provides introduction to applied behavior analysis as it relates to teaching and managing students with special needs. Focuses on teaching new skills and managing inappropriate behavior, both academic and social. Strengths and weaknesses of common school practices for controlling students' inappropriate behaviors described.
ESP 734 Credits 3
Vocational and Career Education for Persons with Disabilities in Transition
Consideration and design of vocational and career education programs for students with disabilities including those with intellectual disabilities, learning disabilities, emotional disturbances, and others.

ESP 735 Credits 3
Advanced Behavior Management
Application of behavioral, psychoeducational and other management approaches for students with disabilities. Special emphasis given to implementation of behavior management techniques for students with disabilities and students in early childhood special education.
Prerequisites Consent of instructor.

ESP 737 Credits 1 – 9
Advanced Practicum with Exceptional Children
Teaching and research experience with exceptional students, with special emphasis upon application, educational methods, and curricular models. Areas of emphasis are: a) mental retardation, b) emotional disturbance, c) learning disabilities, d) early childhood special education, e) research, f) gifted education, g) parent education, h) career education, i) resource room, or j) inclusive environments. Notes Maximum of nine credits may be applied to a graduate program. May be repeated to a maximum of nine credits. Prerequisites ESP 701

ESP 739 Credits 3
Advanced Educational Strategies for Students with Autism Spectrum Disorders
Advanced instructional methods and curricular models applicable to the education of students with autism spectrum disorders. Prerequisites ESP 729 or equivalent.

ESP 740 Credits 3
Speech and Hearing Therapy for Classroom Teacher
Overview of common speech and hearing disabilities, with primary teacher-relevant therapeutic methods and materials applicable to general and special classroom contexts.

ESP 741 Credits 3
Introduction to Gifted Education
Introduction to individuals who are gifted, including definition, identification, characteristics, etiology, and nurturing factors. Relationship of creativity and concerns for underachievement, cultural differences, disabilities and gender issues of individuals who are gifted.

ESP 742 Credits 3
Dimensions of Giftedness
Information concerning educational procedures in all areas of functioning appropriate for gifted individuals, along with basic strategies for creativity and self-concept. Skills developed for planning, implementing, and evaluating effective programs for the gifted. Individualization, strategies for teaching, simulation and inquiry skills, and skills of higher-level thinking emphasized. Prerequisites ESP 741 or equivalent.

ESP 743 Credits 3
Teaching Models in Gifted Education
Provides comprehensive review of teaching-learning models for use in development and implementation of curriculum for gifted students. Prerequisites ESP 742 or consent of instructor.

ESP 745 Credits 3
Experiential Learning in Gifted Education
Connection between the gifted classroom and the world of work and postsecondary education. Focuses on breaking boundaries of school with emphasis on global issues, rapidly changing workplace, and linkage between schools and future life experiences. Prerequisites ESP 741

ESP 746 Credits 3
Creativity in Gifted Education
Intensive study of new approaches dealing with creative expression for the gifted student stressing strategies for creativity.
ESP 747  Credits 3
Contemporary Considerations Gifted Education
Current trends, research and issues in the education of students who are gifted. **Prerequisites** ESP 746 and consent of instructor.

ESP 748  Credits 3
Overview of Assistive Technology
Overview of assistive technology as it relates to life skills including communication, mobility, education, recreation, vocation, independence and therapy/rehabilitation. Variety of computer access methods investigated. Underlying assumptions and legal basis explored. **Prerequisites** ESP 701 or equivalent.

ESP 749  Credits 3 – 6
Thesis
Notes: May be repeated, but only six credits applied to the student's program. **Grading** S/F grading only.

ESP 751  Credits 3
Advanced Techniques in Applied Behavior Analysis
Analysis and application of the skills, practices, and knowledge in advanced theory and methods of Applied Behavior Analysis in special education. Attention given to acquiring practical skills in the theory, principles, procedures, and science of Applied Behavior Analysis with human populations and systems (e.g., classrooms and schools).

ESP 752  Credits 3
Consultative Techniques in Special Education
In-depth emphasis on the differing roles of the special education consultant. Attention given to acquiring practical skills in interviewing parents and teachers of exceptional children.

ESP 753  Credits 3
Administration and Supervision of Special Education Programs
Investigation of existing special education administrative units, pupil placement procedures, student staffing, program reimbursement procedures, and federal funding models. **Prerequisites** Consent of area coordinator.

ESP 755 A  Credits 3
Medically Related Aspects of Disabilities
Course emphasizes medical bases of typical and atypical development for individuals across the lifespan. Physical systems and disabilities; etiologies, symptoms, and psychosocial implications of disabilities and medical conditions; and interventions, treatment strategies, resources, transition/vocational implications are addressed.

ESP 755 B  Credits 3
Medically Related Aspects of Disabilities
Course emphasizes medical bases of typical and atypical development for young children birth to eight with developmental delays. Physical systems and disabilities; etiologies, symptoms, and psychosocial implications of disabilities and medical conditions; and interventions, treatment strategies, resources, transition/vocational implications are addressed.

ESP 757  Credits 3
Assistive Technology Assessment
Presents variety of procedures for gathering data to identify assistive technology needs. Role of team decision making in the assessment process to determine appropriate assistive technology solutions described. Integration of assistive and educational technologies also investigated. **Prerequisites** ESP 748, ESP 701.

ESP 758  Credits 3
Collaborative Services in Assistive Technology
Emphasizes development of collaborative relationships that support development of student-centered assistive technology plans, including working with parents, students and related service providers. Funding issues also addressed. **Prerequisites** ESP 701 and overview of AT (ESP 748).

ESP 759  **Credits 3**
Assistive Technology Applications for Students with Disabilities
Development of functional applications of assistive technology in the areas of communication, mobility, education, recreation, vocation, independence, and therapy/rehabilitation. **Prerequisites** ESP 701, ESP 715 and ESP 727.

ESP 763  **Credits 1 – 3**
Seminars in Selected Special Educational Topics
Areas of emphasis are a) mental retardation, b) emotional disturbance, c) learning disabilities, d) autism, e) early childhood, f) gifted education, g) parent education, h) higher education, i) special education administration, j) research, k) consultation, l) curriculum, m) technology, n) ABA, o) diversity, p) professional writing. **Notes** May be repeated to a maximum of nine credits. **Prerequisites** ESP 760 and consent of instructor.

ESP 764  **Credits 3**
Characteristics & Inclusive Strategies for Students with LD, ED, & MID
Overview of natural and characteristics of students with mild disabilities. Issues in assessment, curriculum and instruction, and placement discussed.

ESP 766  **Credits 3**
Comprehensive Examination
Preparation for Comprehensive Examination. Students enroll in this course only if they are not enrolled in coursework in the semester in which they sit for the Comprehensive Examination. **Notes** No additional assignments are required. Only one credit will be accepted toward degree plan. **Grading** S/F grading only.

ESP 767  **Credits 3**
Training Program Seminar
In-depth analysis of special education training program roles and functions in college and university settings. Emphasis upon teaching, supervisory, and advisement functions, program and area curriculum development, program funding, program-university, public agency and community relationships, and ancillary training program responsibilities. **Prerequisites** Consent of instructor.

ESP 770  **Credits 3**
Second Language Methods for Diverse Learners in Inclusive Settings
Study and implementation of methods and strategies for teaching English language learners (ELLs) with and without disabilities. Learner characteristics and second language development reviewed followed by practical techniques for teaching diverse second language learners across the curriculum.

ESP 771  **Credits 3**
Perspectives on Early Childhood Special Education
Perspectives of national, state, and local programs in special education for young children with disabilities. Reviews variables related to: program development, classroom management, parent involvement, legislation and funding, disability condition, identification, screening and assessment, learning and developmental problems, research, normal child development and developmental deviations.

ESP 772  **Credits 3**
Family Education in Early Childhood Special Education
Review of average family structure and interaction patterns, roles, expectations and
conflicts; mother-infant, infant-family bonding patterns; general specific problems and needs of families of young children with disabilities; programs developed for family involvement and education; national, state and local program models and evaluation. Prerequisites ESP 771 or consent of instructor.

ESP 773 Credits 3 Assessment for Young Children with Disabilities
Focuses on subjective, objective, unstructured, and structured observations of young children with physical disabilities and disabilities of behavior, communication, learning, and development. Survey, review and critique of standardized and non-standardized tests as well as the use of test data in planning instruction. Prerequisites ESP 771 or consent of instructor.

ESP 774 Credits 3 Seminar in Curriculum Development in Early Childhood Special Education
Focuses on the identification of important components of early childhood education for young children with disabilities; critical evaluation for the suitability of various curriculum modes for various disabilities; critical evaluation of commercial materials; designing new curriculum models; and utilizing teacher-made materials. Prerequisites ESP 771

ESP 775 Credits 3 Strategies for Early Childhood Special Education
Focuses upon development of behavioral objectives, task analysis, and grouping and regrouping of children. Includes behavior modification, precision teaching, interaction analysis and microteaching procedures. Consideration of modifications of classroom physical and learning environments, reinforcement patterns, and questioning styles, etc. Prerequisites ESP 771 or consent of instructor.

ESP 776 Credits 3

ESP 777 Credits 3 Assistive Technology Strategies for Young Children
Emphasizes the selection and implementation of assistive technology for young children with and without disabilities. Prerequisites ESP 701 and ESP 748.

ESP 778 Credits 3 Behavior Management for Early Childhood
Provides a background in applied behavior analysis and positive behavior support, with a focus on the application of behavior support for young children and their families. Future service providers receive important knowledge and skills for implementing positive, preventive and function-based interventions in school, home and community environments. Prerequisites ESP 771 or consent of instructor.

ESP 779 Credits 3 Early Intervention Service
Provides content related to staffing patterns in programs for young children with disabilities; organization and implementation of training to meet identified needs of varied paraprofessionals and professionals; supervisory and consultive roles; and budget and fiscal matters. Prerequisites ESP 771 or consent of instructor.

ESP 780 Credits 3 or 6 Field Experience in Early Childhood Special Education 7 Infancy
Intensive 15-week full- or part-time early intervention experience with high risk children and infants with disabilities and their families. Experience includes working with children below age three years in individual and small
group activities, planning and implementing Individual Family Service Plans, and exploring community resources. Prerequisites Consent of instructor.

ESP 781 Credits 3  
Field Experience in Early Childhood Special Education 7 Preschool/Kindergarten  
Intensive 15-week full- or part-time supervised teaching experience with young children with disabilities and their families. Experience includes working with children three to six years of age in individual, small and large group activities, planning and implementing Individualized Program Plans, and exploring community resources. Prerequisites Consent of instructor.

ESP 782 Credits 3  
Professional Seminar in Special Education  
Perceptions of exceptionality by a variety of interdisciplinary personnel. Prerequisites Doctoral status or consent of instructor.

ESP 783 Credits 3  
Leadership Seminar in Special Education  
Teaches and empowers participants to become highly effective leaders in the field of special education. Current leadership paradigms and their application to a variety of professional roles in special education explored.

ESP 784 Credits 3  
Seminar in Advanced Special Education Technology  
In-depth analysis concerning the impact of technology on persons with disabilities. Includes analysis and synthesis of research, local, state, and national policies and initiatives; resource allocations; funding issues; and the use of technology in higher education special education. Prerequisites ESP 760

ESP 785 Credits 3  
Issues, Trends and Futures in Special Education  
Concepts and techniques which facilitates students' abilities in issue analysis, issue resolution, trend impact analysis, and futures formulations. The latter includes evaluations of possibilities, probabilities, and preferences in creating the future. Prerequisites ESP 760

ESP 786 Credits 3  
Legal and Political Issues in Special Education Programming  
Analysis of federal, state, and local statutes, policies and titles which affect the funding and direction of programs for exceptional children. Impact of special education from social, political, and economic perspectives.

ESP 787 Credits 3  
Philosophical Perspectives in Special Education  
Emphasis on the sociocultural, epistemological, teleological, and ethical implications of special education programs. Prerequisites ESP 760

ESP 788 Credits 3  
Single Subject Methods in Special Education  
Overview of methods for evaluating the effectiveness of individual educational interventions and curricula for students with disabilities. Factors which determine when and under what conditions it is appropriate to employ different assessment strategies. Prerequisites ESP 760

ESP 789 Credits 3  
Grant Writing for Human Services  
History and pragmatics of grant proposal writing, management, and evaluation for federal, state and philanthropic support of research, demonstration programs, and personnel preparation in special education and related services. Prerequisites ESP 760

ESP 791 Credits 3  
Proposal Design and Analysis  
Formative and summative research considerations and applications, with emphasis upon practitioner-relevant proposal development, research design, and interpretive critical analyses. Prerequisites Consent of instructor.
ESP 793 Credits 3 – 6
Advanced Field Experience in Special Education
Field-relevant applications of administrative diagnostic-prescriptive and research content to practical working situations. Prerequisites Consent of instructor.

ESP 794 A-C Credits 3 – 6
Internship in Special Education
Structured internship experiences related to (a) conducting research within the field of special education and/or early childhood education, (b) teaching university courses within the Department of Special Education, or (c) the administration of special education and/or early childhood programs. Prerequisites Consent of instructor.

ESP 796 Credits 3
Dissertation Prospectus
Development of appropriate field-relevant topics as a preface to dissertation writing. Prerequisites ESP 760

ESP 798 Credits 2
Professional Paper in Special Education

ESP 799 Credits 3 – 12
Dissertation
Practitioner-relevant thesis covering significant special educational topics, with appropriate applications of demonstration, research and/or model formation. Prerequisites ESP 796. 3-12 credits in increments of three.
Teaching and Learning
Chair

Boone, Randall A.
(1991), Professor; B.S., M.S., University of Central Arkansas; Ph.D., University of Oregon

Graduate Coordinators

Bean, Thomas W.
(1995), Professor; B.A., University of Hawaii at Manoa; M.S., Southern Oregon State College; Ph.D., Arizona State University.

Schrader, Peter (2003), Assistant Professor; B.S., M.A., Ph.D., University of Connecticut.

Strudler, Neal
(1989), Professor; B.A., State University of New York at Albany; M.A., George Peabody College for Teachers; M.A., Ph.D., University of Oregon.

Graduate Faculty

Bailey, Janelle
(2006), Assistant Professor; B.A., Agnes Scott College; M.Ed., University of Georgia; Ph.D., University of Arizona

Clark, Christine
(2007), Professor; B.A., Franklin and Marshall College; M.Ed., Ed.D., University of Massachusetts, Amherst.

Deniz, Hasan
(2007), Assistant Professor; B.S., Dokuz Eylul University in Turkey; M.S., Ph.D., Indiana University.

Garcia, Jesus
(2004), Professor; B.A., San Francisco State University; M.S., Ph.D., University of California.

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(2006), Associate Faculty in Residence; B.A.E., Wayne State College; M.S., Ph.D., University of Nevada Las Vegas.

Grubaugh, Steven J.
(1991), Professor; B.A., California State University, Sonoma; M.A., Ed.D., University of Northern Colorado.

Gordon, Howard R.
(2008), Professor; Diploma, School of Agriculture, Jamaica, West Indies; B.S. and M.S., Tuskegee University; Ed.D., Virginia Polytechnic Institute and State University.

Hartley, Kendall
(1999), Associate Professor; B.S., Ph.D., University of Nebraska-Lincoln; M.S., University of Iowa.

Levitt, Gregory A.
(2001), Professor; B.A., Capitol University; M.A., Ohio State University; Ph.D., Ohio State University.

Lin, Emily Shu-Ying
(2002), Assistant Professor; B.Ed, M.A., University of British Columbia; Ph.D., University of Toronto.

McCarthy, Jane
(1991), Professor; B.A., Douglass College-Rutgers; M.S., Florida State University, Tallahassee; Ed.D., University of Houston.
McKinney, Marilyn M.
(1988), Professor; B.A., Mary Washington College; M.S., Ed.D., Northwest Missouri State University; Ph.D., University of Iowa.

McClain, Clifford R.
(1988), Associate Professor; B.S., M.S., University of Idaho; Ph.D., University of Nebraska.

Olson, Travis A.
(2009), Assistant Professor; B.S., Western Illinois University; M.S., Western Illinois University; Ph.D. candidate, University of Missouri.

Quinn, Linda
(1999), Professor and Associate Dean; B.S., Portland State University; Ed.D., University of Houston.

Shih, Jeffrey
(1999), Associate Professor; B.A., University of California, Berkeley; Ph.D., University of California, Los Angeles.

Shim, Meehye
(2007), Assistant Professor; B.A., Seoul National University; M.S., Ph.D., Indiana University.

Spalding, Mary Elizabeth
(2004), Associate Professor; B.A., M.A., University of West Virginia; Ph.D., Indiana State University.

Wang, Jian
(1998), Associate Professor; B.A., Nanchang Technical and Vocational Teacher's College; M.A., Northeast Normal University; Ph.D., Michigan State University.

Zhang, Shaoan
(2007), Assistant Professor; B.A., M.A., Hebei Normal University; Ph.D., Old Dominion University.

The Department of Teaching and Learning offers graduate degrees in education at the master, specialist, and doctoral levels. All C&I graduate programs are aimed at providing the professional experiences required by teachers, field supervisors, curriculum specialists, adult educators, and future professors of education who are dedicated to school improvement.

Master Degree Programs
The Department of Teaching and Learning offers the Master of Education (M.Ed.) and the Master of Science (M.S.) degrees. The M.Ed. degree requires a minimum of 37 semester hours of study including a 1 credit culminating experience and a core of three semester hours in research, three semester hours in foundations, and three semester hours in curriculum and instruction. The M.S. degree requires a minimum of 39 semester hours of study including 6 credits of thesis and a core of six semester hours in research and three semester hours in foundations.

The Department of Teaching and Learning offers the following concentrations for a M.Ed. or M.S. degree:

Concentrations:
Children’s and Young Adult Literature
Elementary Education
English Education
Library Science
Literacy Education
Mathematics Education
Multicultural Education
Reading Specialist
Science Education
Social Studies Education
Teacher Leadership
Secondary Education
Technology Integration
Technology Leadership

Graduate Licensure Program:
The Graduate Licensure Program is a graduate program in the Department of Teaching & Learning leading to an elementary or secondary teaching license and a Master of Education (M.Ed.). The program is designed for individuals who hold a degree in a field other than education and aspire to become elementary or secondary classroom teachers.

Graduate Courses:
Graduate courses offered in the Department of Teaching and Learning are listed under five prefixes: CIE, CIS, CIG, CIL, and CIT. Students are advised to review all department courses and to read the course descriptions carefully. Students should contact their academic faculty advisor if additional clarification is
needed. Graduate program information for master’s students is available on-line at http://tl.unlv.edu.

Doctoral Programs in the Department of Teaching and Learning: Ed.D. and Ph.D. in Curriculum & Instruction and Ph.D. in Teacher Education

The Ed.D. in Curriculum and Instruction is intended for professional educators who desire to extend and advance their studies in the theory and practice of education. The completion of this degree will enable individuals to become members of university and college faculties as well as leaders in school districts and community agencies.

The Ph.D. in Curriculum and Instruction is intended for professional educators who desire to extend and advance knowledge in the theory and practice of education as university researchers. The completion of this degree will enable individuals to become skilled researchers and mentors of university students, as well as leaders in school districts and community agencies.

Curricular emphasis areas within the Ed.D. and Ph.D. include:
1. Teacher Education;
2. Literacy Education;
3. Cultural and International Studies in Education.
4. Mathematics Education;
5. Educational Technology;
6. Science Education;

The Ph.D. in Teacher Education is designed for professional educators who have an interest in becoming practitioner-oriented scholars in teacher education and who are interested in teacher education as a content area for research.

Completing this degree will enable individuals to answer the national call for teacher educators and researchers in this field. The program is one of only a few in the nation devoted to teacher education.

Courses in the C&I Department:
The following courses are intended for students accepted into degree programs for the M.Ed., M.S., Ed.D., and Ph.D. This is only a listing of courses and is not a student’s degree plan. The degree plan must be formally filed after meeting with an assigned advisor. Advanced 700-classes are limited only to students in the Ed.D. and Ph.D. programs. Advanced graduate students (Ed.D. and Ph.D. students) occasionally may take master’s level classes with the approval of their advisors.

- Specified 500-level courses may be used in a graduate degree only with the approval of an advisor; these courses primarily are reserved for graduate licensure students.

* C&I Course Numbering Format

CIE - Elementary (K-8)
- Pedagogy
- Mathematics
- Science
- Social Studies
- Advanced Pedagogy
- Doctoral

CIG - General (K-12)
- Pedagogy
- Mathematics
- Science
- Social Studies
- Art
- Multicultural
- Advanced Pedagogy
- Doctoral

CIL - Literacy (K-12)
- Literacy/Reading/Language Arts
- English
- English Language Acquisition
- TESL
- Bilingual
- Library Science
- Literature
- Advanced Literacy
- Doctoral

CIS - Secondary (7-12)
- Pedagogy
- Mathematics
- Science
- Social Studies
- Advanced Pedagogy
- Doctoral

CIT - Technology (K-12)
- Introductory
Intermediate
Advanced
Doctoral

Programs

- Curriculum & Instruction M.Ed. & M.S.
- Curriculum & Instruction Ed.D.
- Curriculum & Instruction Ph.D.
- Teacher Education Ph.D.

Curriculum & Instruction Ph.D.

Admission Requirements

Application for the Ph.D. in Curriculum and Instruction in the Department of Teaching and Learning is accomplished through the UNLV Graduate College online application process. Deadline for completed and submitted applications is March 1.

Specific admission criteria for the PhD in Curriculum and Instruction include:

1. Meet the requirements for admission to the Graduate College of UNLV set forth in the UNLV Graduate catalog.
2. Hold a master’s degree from an accredited program in an area closely related to the chosen field of specialization. Normally, 18 semester hours in education are required.
3. Have a grade point average of 3.0 of higher in all graduate level coursework. *Please note that one third of the total program hours may be transferred from another accredited doctoral program.
4. Have completed a minimum of 2 years of successful professional educational experience upon entrance to the program.
5. Obtain three letters of recommendation from individuals who can specifically address the applicant’s potential for success in the doctoral program. These letters of recommendation will be requested and submitted through the Graduate College online application system. One of the letters must be from a university faculty member addressing your past academic success and future potential in a doctoral program.
6. Submit one set of official transcripts from all previously attended colleges and universities as requested in the Graduate College online application. You may upload unofficial transcripts via the online application as a supplement if you have the documents in a digital computer file (e.g., PDF). Unofficial transcripts do NOT substitute for the official documents.
7. Submit Graduate Record Examination (GRE) scores for the General Exam. The scores should be sent directly to the Doctoral Studies Office in the Department of Curriculum and Instruction. Applicants are encouraged to provide self-reported scores for the GRE in the Standardized Tests section of the Graduate College online application.
8. Submit a Personal Statement via the Graduate College online application that addresses in detail: (a) emphasis area of study [see nota bene below], (b) the reasons for pursuing a doctorate in education, (c) expectations concerning the doctoral program, (d) potential areas of study, and (e) the name of a faculty member in the department with whom you would like to work [optional].
9. Submit a written statement regarding when the residency requirement will be met (see the Doctoral Handbook, pp. 6, 10-11, & 18; http://ci.unlv.edu/doctoral). This statement should be uploaded via the Graduate College online application in the Supplementary Information section as an “Other Required Document.”
10. Demonstrate oral communication skills through an interview conducted by members of the C&I graduate faculty. Out-of-state applicants must contact the Coordinator of Doctoral Studies directly to make alternate arrangements to the on-campus interview.
11. International students are encouraged to self-report their TOEFL scores via the Graduate College online application. Official scores must also be sent directly to the UNLV Graduate College.

N. B. The Department of Teaching and Learning offers doctoral programs in six different emphasis areas: (a) Cultural and International Studies, (b) Instructional Technology, (c) Literacy, (d) Mathematics Education, (e) Science Education, and (f) Teacher Education. The Ph.D. in Teacher Education is a separate degree program from the Ph.D. in Curriculum and Instruction with an emphasis in Teacher Education.
Degree Requirements

Doctoral students in the Ph.D. program must complete a minimum of 72 hours of course work beyond their master’s degree. Course work is organized into an emphasis area (27 hours), a cognate (9-12 hours), educational research and statistics (15 hours), internship (6-12 hours), and dissertation (15-24 hours). The doctoral student’s advisor must approve all course work. A plan of study must be filed before the completion of 16 hours of course work. Consult the department’s Coordinator of Doctoral Studies for further information on the process and procedure for filing a program of study. Specific required and recommended courses for each emphasis area can be found in the Doctoral Studies Guide on the department Website.

The Doctor of Philosophy in Curriculum and Instruction degree is awarded to candidates who complete the following:

1. Maintain an overall GPA of 3.00 or higher for all course work taken at the doctoral level;
2. Complete a minimum of 72 credit hours beyond the master’s degree as stated in the candidate’s program of study;
3. Complete the residency requirement. The residency experience incorporates, to the greatest extent possible, a spirit of full-time attention from students to their studies during the residency period. Selection of the criteria for fulfilling the residency requirement is under the auspices of the student’s committee with oversight of the Doctoral Studies Coordinator and Doctoral Studies Committee. A formal proposal for the residency period is required from the student. The PhD residency experience will incorporate a focus on activities associated with success in academe (e.g., scholarly writing, classroom and online university teaching, research methods and opportunities, and external funding). The residency period will encompass at least two consecutive terms (may include one summer term).
4. Attend the Teaching and Learning Department Doctoral Colloquium held periodically throughout their years of study;
5. Pass a written comprehensive examination taken before commencing with the dissertation;
6. Complete and successfully defend the dissertation. The candidate must follow the guidelines set forth in Guide to Preparing & Submitting a Thesis or Dissertation available on the Graduate College Web site;
7. Submit an article for publication in a national refereed journal.
8. File the appropriate graduation forms with the Graduate College; and
9. File the original and two copies of the approved dissertation with the Graduate College and one copy of the dissertation with the Teaching and Learning Department.

Curriculum & Instruction

Ed.D.

Admission Requirements

Application for the Ed.D. in Curriculum and Instruction in the Department of Teaching and Learning is accomplished through the UNLV Graduate College online application process. Deadline for completed and submitted applications is March 1.

Specific admission criteria for the Ed.D. in Curriculum and Instruction include:

1. Meet the requirements for admission to the Graduate College of UNLV set forth in the UNLV Graduate catalog.
2. Hold a master’s degree from an accredited program in an area closely related to the chosen field of specialization. Normally, 18 semester hours in education are required.
3. Have a grade point average of 3.0 of higher in all graduate level coursework. *Please note that one third of the total program hours may be transferred from another accredited doctoral program.
4. Have completed a minimum of 2 years of successful professional educational experience upon entrance to the program.
5. Obtain three letters of recommendation from individuals who can specifically address the applicant’s potential for success in the doctoral program. These letters of recommendation will be requested and submitted through the Graduate College online application system. One of the letters must be from a university faculty member addressing your past academic success and future potential in a doctoral program.
6. Submit one set of official transcripts from all previously attended colleges and
universities as requested in the Graduate College online application. You may upload unofficial transcripts via the online application as a supplement if you have the documents in a digital computer file (e.g., PDF). Unofficial transcripts do NOT substitute for the official documents.

7. Submit Graduate Record Examination (GRE) scores for the General Exam. The scores should be sent directly to the Doctoral Studies Office in the Department of Curriculum and Instruction. Applicants are encouraged to provide self-reported scores for the GRE in the Standardized Tests section of the Graduate College online application.

8. Submit a Personal Statement via the Graduate College online application that addresses in detail: (a) emphasis area of study [see note below], (b) the reasons for pursuing a doctorate in education, (c) expectations concerning the doctoral program, (d) potential areas of study, and (e) the name of a faculty member in the department with whom you would like to work [optional].

9. Demonstrate oral communication skills through an interview conducted by members of the C&I graduate faculty. Out-of-state applicants must contact the Coordinator of Doctoral Studies directly to make alternate arrangements to the on-campus interview.

10. International students are encouraged to self-report their TOEFL scores via the Graduate College online application. Official scores must also be sent directly to the UNLV Graduate College.

N.B. The Department of Teaching and Learning offers doctoral programs in six different emphasis areas: (a) Cultural and International Studies, (b) Instructional Technology, (c) Literacy, (d) Mathematics Education, (e) Science Education, and (f) Teacher Education.

Degree Requirements

Doctoral students in the Ed.D. program must complete a minimum of 69 hours of course work beyond their master’s degree. Course work is organized into an emphasis area (27 hours), a cognate (9-12 hours), educational research and statistics (12 hours), internship (6-12 hours), and dissertation (15-24 hours). The doctoral student’s advisor must approve all course work. A plan of study must be filed before the completion of 16 hours of course work. Consult the department’s Coordinator of Doctoral Studies for further information on the process and procedure for filing a program of study. Specific required and recommended courses for each emphasis area can be found in the Doctoral Studies Guide on the department Web site.

The Doctor of Education degree is awarded to candidates who complete the following:

1. Maintain an overall GPA of 3.00 or higher for all course work taken at the doctoral level;
2. Complete a minimum of 69 credit hours beyond the master’s degree as stated in the candidate’s program of study;
3. Complete the residency requirement for the degree through one of the three options available as described in the current Doctoral Studies Guide on the department Web site;
4. Attend the Teaching and Learning Department Doctoral Colloquium held periodically throughout their years of study;
5. Pass a written comprehensive examination taken before commencing with the dissertation;
6. Complete and successfully defend the dissertation. The candidate must follow the guidelines set forth in Guide to Preparing & Submitting a Thesis or Dissertation available on the Graduate College Web site;
7. File the appropriate graduation forms with the Graduate College; and
8. File the original and two copies of the approved dissertation with the Graduate College and one copy of the dissertation with the Teaching and Learning Department.

Curriculum & Instruction

M.Ed. & M.S.

Admissions Requirements

In addition to meeting the admission requirements of the Graduate College, as outlined in the front of this catalog, applicants must also meet the requirements established by the Department of Teaching and Learning. They are:

1. An overall undergraduate grade point average (GPA) of 3.00 is required for admission. Students with a GPA of less than
3.00 but greater or equal to 2.75 may be admitted to the graduate program upon review of the Admissions Committee;

2. A minimum of 18 hours of course work in professional education taken at the undergraduate or post-baccalaureate level. Exception to this requirement exists for graduate licensure students, as well as for those in other emphasis areas with department approval;

3. A completed on-line application for admission submitted to the Graduate College;

4. A one- to two-page statement of professional goals emailed directly to T&L. The names with contact information of two professional references and intended emphasis area should be included in the statement;

5. Two sets of official transcripts from all previously attended colleges and universities. One set of transcripts must be sent directly to the Graduate College; the other set must be sent directly to the T&L main office.

6. For Graduate Licensure Program (GLP), please see below for additional application requirements.

Applications are processed when all credentials required by both the Graduate College and T&L have been received. Once received, materials are forwarded to the Graduate Coordinator and the T&L Master’s Admission Committee to evaluate the applicant’s credentials and recommend acceptance or denial into the program. Those who wish to begin studies but who missed the application deadline may enroll as a non-degree seeking graduate student. However, since there is no guarantee that courses taken as a non-degree student will count toward a degree, and since a maximum of 15 hours taken prior to admission to the program may be used to meet degree requirements, candidates are urged to seek advisement prior to registering for any course(s). Please see http://tl.unlv.edu/admissions for more information. Students may also email cigrad@unlv.nevada.edu or call (702) 895-1986 for assistance.

Degree Requirements
All graduate students are held responsible for the requirements and academic policies established by the Graduate College and outlined in the front of this catalog. In addition, T&L has established requirements for each of its degree offerings. While these requirements may be obtained from an academic advisor, they are briefly outlined below.

The M.Ed. program requires a minimum of 37 semester hours of approved studies and the M.S. requires a minimum of 39 semester hours of approved studies. Both the M.Ed. and M.S. require an overall minimum GPA of 3.00 in all courses counted toward the degree. Students in the M.Ed. program must either complete a comprehensive culminating experience or write a professional paper/project as the culminating activity for this degree. A thesis and its defense are the culminating activity for the M.S. As required by the Graduate College, all students must be enrolled in a minimum of three credit hours during their culminating semester.

Master’s degrees must be completed within a six-year period, and continuous enrollment must be maintained throughout the six years.

Graduate Licensure Program Admission and Licensure Requirements
Graduate Licensure Degree Program (GLP). This program is designed for individuals who hold at least an undergraduate degree in a field other than elementary or secondary education and who aspire to earn a master’s degree while qualifying for an initial teaching license. Interested students must first apply simultaneously with a graduate application form to the Graduate College and Graduate Licensure application form to the Professional Development Office.

1. Graduate Licensure Elementary (K-8). This program is intended for individuals who wish to secure teacher licensure at the elementary level (K-8). Students must meet prerequisite admission requirements and once admitted attend classes and field
experiences as a fulltime graduate student. The program includes upper division course work leading to licensure, full-time student teaching, and then completion of graduate coursework to meet requirements of the M.Ed. while employed as an elementary teacher.

2. Graduate Licensure Secondary (7-12). This program is intended for individuals who wish to secure teacher licensure at the secondary level (7-12). Students must meet prerequisite admission requirements and once admitted attend classes and field experiences as a fulltime graduate student. The program includes upper division coursework leading to licensure, full-time student teaching, and then completion of graduate coursework to meet requirements of the M.Ed. while employed as a secondary teacher.

3. Admission Requirements
   a. Bachelor’s degree with overall GPA of 3.00 or above
   b. Content coursework related to general education core for elementary education or specific subject area teaching fields(s) for secondary education
   c. Praxis I Pre-Professional Skills Test with passing scores in reading, writing, and mathematics
   d. Completed application form for GLP program.

4. Licensure Requirements
   a. Passing scores on the Teacher Licensure Examinations for Nevada School Law, Nevada Constitution, and U.S. Constitution or credits in related course work
   b. Documentation of immunizations with Admissions
   c. Fingerprinting in compliance with the Clark County School District policy
   d. Praxis II Pre-Professional Skills Test with passing score.

For further information regarding program requirements and the application process, please see http://tl.unlv.edu/glp or contact the T&L Professional Development Office located in the Carlson Education Building (CEB), or call (702) 895-1536.

Teacher Education Ph.D.

Admission Requirements

Application for the Ph.D. in Teacher Education is accomplished through the UNLV Graduate College online application process. Deadline for completed and submitted applications is March 1.

Specific admission criteria for the Ph.D in Teacher Education include:

1. Meet the requirements for admission to the Graduate College of UNLV set forth in the UNLV Graduate catalog.
2. Hold a master’s degree from an accredited program in an area closely related to the chosen field of specialization. Normally, 18 semester hours in education are required.
3. Have a grade point average of 3.0 of higher in all graduate level coursework. *Please note that one third of the total program hours may be transfered from another accredited doctoral program.
4. Have satisfactory teaching experience, preferably licensed.
5. Obtain three letters of recommendation from individuals who can specifically address the applicant’s potential for success in the doctoral program. These letters of recommendation will be requested and submitted through the Graduate College online application system. One of the letters must be from a university faculty member addressing your past academic success and future potential in a doctoral program.
6. Submit one set of official transcripts from all previously attended colleges and universities as requested in the Graduate College online application. You may upload unofficial transcripts via the online application as a supplement if you have the documents in a digital computer file (e.g., PDF). Unofficial transcripts do NOT substitute for the official documents.
7. Submit Graduate Record Examination (GRE) scores for the General Exam. The scores should be sent directly to the Doctoral Studies Office in the Department of Teaching and Learning. Applicants are encouraged to provide self-reported scores for the GRE in the Standardized Tests section of the Graduate College online application.
8. Submit a Personal Statement via the Graduate College online application that addresses in detail: (a) the reasons for
pursuing a doctorate in teacher education, (b) expectations concerning the doctoral program, (c) potential areas of study within teacher education, and (d) the name of a faculty member in the department with whom you would like to work [optional].

9. Submit a written statement regarding when the residency requirement will be met (see the Doctoral Handbook, pp. 6, 10-11, & 18; http://tl.unlv.edu/doctoral). This statement should be uploaded via the Graduate College online application in the Supplementary Information section as an “Other Required Document.”

10. Demonstrate oral communication skills through an interview conducted by members of the T & L graduate faculty. Out-of-state applicants must contact the Coordinator of Doctoral Studies directly to make alternate arrangements to the on-campus interview.

11. International students are encouraged to self-report their TOEFL scores via the Graduate College online application. Official scores must also be sent directly to the UNLV Graduate College.

Admission Process

Once requirements are met, members of the T & L Graduate Faculty will evaluate all evidence for admission submitted by the applicant and then make their recommendations to the entire T& L faculty. The T & L faculty will make a recommendation to the Graduate College, and the Graduate College will send written notice regarding admission to the applicant. Only complete applications will be considered.

Continuing Enrollment

Once matriculated as a doctoral student, the student must enroll in at least three semester hours each term. The work must be related to the student’s program or dissertation.

Degree Requirements

The Ph.D. in Teacher Education consists of a minimum of 63 credits beyond the master’s degree. Of the 63 credits, 21 credits are required courses: six credits are in specific research and inquiry courses and 15 credits are in the required education core. In addition, a teaching internship (6 credits) and a school-based internship (3-6 credits) are required. Of the remaining credits, six are electives in the inquiry and research area and nine credits are in teacher education and teaching/learning electives. In addition, three hours of required research seminar are taken concomitantly with the dissertation. Eighteen-24 hours of dissertation are required. Individual programs of study may exceed the minimum requirements; specific course work will vary depending on the particular teaching field or emphasis that is chosen in teacher education. Specific required and recommended courses can be found in the Doctoral Studies Guide on the department website.

Completion of the degree requirements for a Ph.D. in Teacher Education includes the following:

1. Maintain an overall GPA of 3.00 or higher for all course work taken at the doctoral level;
2. Complete a minimum of 63 hours of study beyond the master’s degree as stated in the candidate’s program of study;
3. Complete the residency requirement for the degree. The residency experience incorporates, to the greatest extent possible, a spirit of full-time attention from students to their studies during the residency period. Selection of the criteria for fulfilling the residency requirement is under the auspices of the student’s committee with oversight of the Doctoral Studies Coordinator and Doctoral Studies Committee. A formal proposal for the residency period is required from the student. The PhD residency experience will incorporate a focus on activities associated with success in academe (e.g., scholarly writing, classroom and online university teaching, research methods and opportunities, and external funding). The residency period will encompass at least two consecutive terms (may include one summer term);
4. Attend the T & L Doctoral Colloquium held periodically throughout the years of study;
5. Pass a written comprehensive examination taken before commencing with the dissertation;
6. Complete and successfully defend the dissertation. The candidate must follow the guidelines set forth in the Guide to Preparing & Submitting a Thesis or Dissertation available for the Graduate College;
7. File the appropriate graduation forms with the Graduate College; and
8. File the original and two copies of the approved dissertation with the Graduate College.
College and one copy of the dissertation with the T & L Department.

CIE 508 Credits 3
Classroom Management Elementary Education
Graduate credit may be obtained for courses designated 500 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 500 level normally requires additional work. Prerequisites CIE 601 and EDEL 311

CIE 533 Credits 3
Teaching Elementary School Mathematics
Graduate credit may be obtained for courses designated 500 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 500 level normally requires additional work. Prerequisites PPST, MATH 122 and MATH 123 or EDEL 431 or consent of instructor. Corequisite Enrollment in a practicum.

CIE 543 Credits 3
Teaching Elementary School Science
Graduate credit may be obtained for courses designated 500 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 500 level normally requires additional work. Prerequisites PPST, BIOL 100, GEOG 101 and 103, CHEM 105 and 106 or 110. Corequisite Enrollment in a practicum.

CIE 553 Credits 3
Teaching Elementary School Social Studies
Graduate credit may be obtained for courses designated 500 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 500 level normally requires additional work. Prerequisites PPST, nine hours of social science. Corequisite Enrollment in a practicum.

CIE 601 Credits 3
Elementary Teacher Development Seminar
Designed for students entering the Elementary Graduate Licensure program. Examines contemporary trends for developing classroom expertise with observations in an elementary classroom. Focus on theory and practice in fostering personal and professional development for pre-service teachers. Prerequisites Graduate standing. Corequisite Admission Graduate Licensure Program.

CIE 620 Credits 1 – 3
Topics Elementary School Mathematics
Examines specific topics and issues in elementary school mathematics. Notes Maximum of six credits accepted toward degree. Prerequisites EDEL 433 or CIE 533 and current teaching certificate.

CIE 623 Credits 3
Instruction Primary Elementary Mathematics Education
Study of research-based practices and methods in primary elementary school mathematics education. Prerequisites EDEL 433 or CIE 533 or ECE 454 and current teaching certificate.

CIE 625 Credits 3
Instruction Intermediate Elementary Mathematics Education
Study of research-based practices and methods in intermediate elementary school mathematics education. Prerequisites EDEL 433 or CIE 533 and current teaching certificate.

CIE 627 Credits 3
Technology Applications K-8 Mathematics Education
Research-based study of the integration of technology into the teaching of mathematics in grades K-8. Prerequisites One 600-level mathematics instruction course or consent of instructor.

CIE 629 Credits 3
Curriculum Development in Elementary School Mathematics
Emphasizes research and curriculum studies dealing with content and procedures of elementary school mathematics programs.
Prerequisites: One 600-level mathematics instruction course or consent of instructor.

CIE 630  Credits 1–3
Topics Elementary School Science
Examines specific topics and issues in elementary school science.
Prerequisites: EDEL 443 or CIE 543 and current teaching certificate.

CIE 635  Credits 3
Instruction Elementary Science Education
Study of research-based practices and methods in elementary school science education.
Prerequisites: EDEL 443 or CIE 543 and current teaching certificate.

CIE 637  Credits 3
Technology Applications K-8 Science Education
Research-based study of the integration of technology into the teaching of science in grades K-8. Prerequisites: EDEL 443 or CIE 543 and current teaching certificate or consent of instructor.

CIE 639  Credits 3
Curriculum Development Elementary Science Education
Emphasizes research and curriculum studies dealing with content and procedures of elementary school science programs.
Prerequisites: One 600-level science instruction course or consent of instructor.

CIE 640  Credits 1–3
Topics Elementary School Social Studies
Examines specific topics and issues in elementary school social studies. Notes: Maximum of six credits accepted toward degree.
Prerequisites: EDEL 453 or CIE 553 and current teaching license.

CIE 645  Credits 3
Instruction Elementary Social Studies Education
Study of research-based practices and methods in elementary school social studies education.
Prerequisites: EDEL 453 or CIE 553 and current teaching license.

CIE 649  Credits 3
Curriculum Development Elementary Social Studies Education
Emphasizes research and curriculum studies dealing with content and procedures of elementary school social studies programs.
Prerequisites: EDEL 453 or CIE 553 and current teaching license.

CIE 681  Credits 3
Elementary School Instruction
Research basis for developing and implementing instructional strategies and models of teaching for the elementary classroom. Prerequisites: Current teaching certificate.

CIE 683  Credits 3
Elementary Classroom Management
Advanced study in managing various aspects of the classroom including establishing and maintaining positive psychosocial environments; rules, routines, and procedures to minimize disruption; discipline plans; and enriched curricula. Prerequisites: Current teaching certificate.

CIE 685  Credits 3
Elementary Education Curriculum
Current research, influences, trends and issues in the modern elementary school curriculum. Recommended as a culminating course. Prerequisites: Current teaching certificate.

CIE 687  Credits 3
Curriculum Development Elementary Education
Examines the conceptual framework and decision making involved in elementary school curriculum development.

CIG 500  Credits 1 - 3
Topics Teacher Education
Graduate credit may be obtained for courses designated 500 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: May be repeated to a maximum of six
credits. Credit at the 500 level normally requires additional work.

CIG 600A Credits 1 – 6
Curriculum and Instruction
Specialized course in curriculum and instruction designed to develop depth in understanding a current educational topic for the in-service teacher. Notes Maximum of six credits accepted toward a degree.

CIG 601 Credits 3
Curriculum and Instruction Urban Settings
This course is a research-based study of elementary and secondary education in urban settings that blends curriculum and instruction to develop an in-depth understanding of contemporary educational practices.

CIG 602 Credits 3
Differentiated Curriculum and Instruction
Research-based study of strategies to differentiate curriculum and instruction in order to effectively assess learner needs, modify curriculum materials, plan and implement instruction, develop assignments, and evaluate learning outcomes. Notes Credit at the 600 level normally requires additional work.

CIG 603 Credits 3
Urban Education
Analysis of the needs and problems of pupils in the urban school, with special emphasis on the development of relevant curricula and teaching strategies. Field work on a pertinent problem required. Prerequisites Subject area undergraduate methods course.

CIG 620 Credits 3
Principles of Learning Mathematics
Study of research involving cognitive factors that impact the learning of mathematics. Prerequisites One 600-level course in mathematics instruction or consent of instructor.

CIG 621 Credits 3
Diagnostic Assessment School Mathematics
Study of the causes and effects of mathematics learning difficulties, methods and instruments useful in diagnosis and treatment. Evaluation of materials for the correction of mathematics learning problems. Prerequisites One 600-level course in mathematics instruction or consent of instructor.

CIG 629 Credits 3
Mathematics Education Seminar
Examination of seminal and current mathematics education research through readings, writings, discussions and presentations. Prerequisites Fifteen hours of graduate coursework or consent of instructor.

CIG 650 Credits 3
Art History for Art Educator
Study of art history and its relationship to the design and implementation of art curriculum in elementary and secondary education.

CIG 651 Credits 3
Aesthetics and Criticism Art Education
Study of aesthetics and art criticism concepts as curricular content in elementary and secondary art education.

CIG 652 Credits 3
Technology Applications Art Education
Research-based study of the integration of technology into the teaching and learning of elementary and secondary art education curriculum.

CIG 653 Credits 3
Instructional Discipline-Based Art Education
Study of research-based practices and methods in the teaching of discipline-based elementary and secondary school art education.

CIG 660 Credits 3
Multicultural Education
Introduces students to topics, issues, research, and practices associated with teaching in a diverse society. Prerequisites Graduate standing.

CIG 661 Credits 3
Topics Multicultural Education
Examines specific topics and issues in multicultural education. Notes Maximum of six
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Course Title and Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIG 662</td>
<td>3</td>
<td>Theory and Research Multicultural Education&lt;br&gt;Examines research related to current programs, trends and issues relative to student instruction for the purpose of preparing teachers, administrators, and other educators to work with diverse populations. <strong>Prerequisites</strong> CIG 660 or consent of instructor.</td>
</tr>
<tr>
<td>CIG 682</td>
<td>3</td>
<td>Reflective Practice in Teaching&lt;br&gt;Focuses on the theoretical bases, roles, approaches, and dimensions of teacher reflection. Provides students opportunities for reflective practice to improve teaching. Students acquire important knowledge and basic skills of teacher reflection necessary to be a master teacher.</td>
</tr>
<tr>
<td>CIG 689</td>
<td>1-3</td>
<td>Curriculum and Instruction Seminar&lt;br&gt;Examination of seminal and current mathematics education research through readings, writings, discussions and presentations. <strong>Notes</strong> Maximum of six credits accepted toward a degree. <strong>Prerequisites</strong> Fifteen hours of graduate coursework or consent of instructor.</td>
</tr>
<tr>
<td>CIG 690</td>
<td>3</td>
<td>Teachers as Action Researchers&lt;br&gt;Surveys literature on classroom action research as a new genre of research, examines important issues in the field of teacher research, and helps students begin conducting action research in their own classrooms. Students develop an action research project.</td>
</tr>
<tr>
<td>CIG 692</td>
<td>3</td>
<td>Curriculum Evaluation in Education&lt;br&gt;Study of research-based practices in general and specific curriculum evaluation. <strong>Notes</strong> Requires a field-based curriculum evaluation project related to an elementary or secondary subject area and basic knowledge of statistics, research methodology, and curriculum theory.</td>
</tr>
<tr>
<td>CIG 697</td>
<td>1-3</td>
<td>Curriculum and Instruction Culminating Experience&lt;br&gt;Culminating experience for M.Ed. students. Includes a selection of faculty approved options such as a comprehensive examination, professional manuscript or presentation, eportfolio project, or other equitable curricular experiences. <strong>Grading</strong> S/F grading. <strong>Prerequisites</strong> Thirty hours graduate course work.</td>
</tr>
<tr>
<td>CIG 698</td>
<td>3</td>
<td>Curriculum and Instruction Professional Paper/Project&lt;br&gt;Culminating activity for M.Ed. students. Paper/project requires the student to identify an educational issues applicable to a professional setting and conduct in-depth study or action research concerning the issue. <strong>Notes</strong> Maximum of six credits accepted toward a degree. <strong>Grading</strong> S/F grading only.</td>
</tr>
<tr>
<td>CIG 699</td>
<td>3-9</td>
<td>Curriculum and Instruction Thesis&lt;br&gt;Culminating activity for M.S. Students. <strong>Notes</strong> Maximum of nine credits accepted toward a degree. <strong>Grading</strong> S/F grading only. <strong>Prerequisites</strong> CIG 689 and consent of instructor.</td>
</tr>
<tr>
<td>CIG 706</td>
<td>3</td>
<td>Mentoring Strategies to Improve Teaching&lt;br&gt;Addresses underlying theory of mentoring and development of mentoring strategies and practices. Aims to improve mentoring practices of experienced teachers working with novice teachers. <strong>Prerequisites</strong> Consent of instructor.</td>
</tr>
<tr>
<td>CIG 716</td>
<td>1-3</td>
<td>Reading and Conference&lt;br&gt;Independent reading and study conference with assigned professor. <strong>Notes</strong> Maximum of six credits accepted toward a degree. <strong>Prerequisites</strong> Must be approved prior to registration.</td>
</tr>
</tbody>
</table>
CIG 760R  
Credits 3  
Inquiry into Teacher Education  
Supports students in analyzing major issues, questions, and trends in teacher education as well as the social, historical, and theoretical backgrounds. Familiarizes students with various forms of literature in the field of teacher education. Engages students in writing literature reviews and conference proposals.

CIG 761  
Credits 3  
Theoretical Foundations of Education  
Examines the historical, philosophical, sociological, and cultural foundations of teaching and learning.  
Prerequisites  Doctoral status; or consent of instructor.

CIG 762  
Credits 3  
Instructional Strategies and Learning to Teach in Higher Education  
Focuses on the past, present, and evolving pedagogical content of teacher education. Topics include: the role and work of the teacher educator, teacher educator curricular issues, and effective teaching strategies for working with adult learners.  
Prerequisites  Doctoral status.  
Concurrent enrollment in CIG 791.

CIG 763  
Credits 3  
Teaching and Learning to Teach  
Broad overview of the process of learning to teach that begins long before a teacher enrolls in education courses. Explores empirical and conceptual questions about teacher learning across the career.  
Prerequisites  Doctoral status.  
Concurrent enrollment in CIG 791.

CIG 764  
Credits 3  
Models of Teaching  
Considers the wide variety of approaches to teaching through historical, theoretical and research perspectives. Emphasis on the identification of models of teaching most appropriate to the objectives of individual lessons.  
Prerequisites  Doctoral status.

CIG 765  
Credits 3  
Instructional Design  
Trends, issues, and research findings on effective instructional planning, presentation, and evaluation.  
Prerequisites  Doctoral status.

CIG 766  
Credits 3  
Evaluation of Teaching  
Survey of current methods in evaluating teaching including summative and formative evaluation; high and low inference instruments; validity, reliability and legal issues; and techniques of data gathering. Explores evaluation as a method of improving instruction.  
Prerequisites  EPY 702 and Doctoral status.

CIG 767  
Credits 3  
Human Relations for the Teacher Educator  
Inquiry into the role of cultural, racial, and social minorities in education.  
Prerequisites  Doctoral status.

CIG 768  
Credits 3  
Advanced Curriculum Studies  
Examines various philosophical and theoretical traditions in contemporary Curriculum Studies, including progressive educational thought, postmodern, post-structural, psychoanalytic, Marxist, postcolonial, feminist, and queer theory. One of three courses that fulfills the requirement for two Educational Foundations courses.  
Prerequisites  Doctoral status.

CIG 769  
Credits 3  
Advanced Curriculum Evaluation in Education  
Development and application of evaluation models, instruments, and strategies. Applications of selected models, instruments, and strategies to curriculum program evaluation projects. Requires in-depth evaluation report based on field experience project.  
Prerequisites  Doctoral status.

CIG 770  
Credits 3  
Current Trends and Issues in Education  
Contemporary trends and issues in curriculum development, teaching and learning in education.  
Prerequisites  Doctoral status or consent of instructor.
CIG 771  
Credits 3  
Comparative Studies in Learning, Teaching, and Curriculum  
Examines relationships between learning, curriculum, teaching, and teacher development within and across different countries and analyzes goals, theoretical assumptions, methodological dilemmas, and implications of such comparisons. Prerequisites Doctoral Status.

CIG 772  
Credits 3  
Introduction to Cultural Studies in Education  
Examines the political, theoretical, and historical roots of Cultural Studies as it applies to issues of power, culture and knowledge in the field of education. Popular culture, media studies, youth/child culture figure prominently. Notes This is a compulsory core for those in the International and Cultural Studies emphasis area. Prerequisites Doctoral status

CIG 773  
Credits 3  
Critical Literacies/Critical Pedagogies  
Explores the work of Paulo Freire and the development of Critical Literacy and Critical Pedagogy. Notes This is a required course for students of International and Cultural Studies and can be used as an elective for those doctoral students in literacy education. Prerequisites Doctoral Status or Consent of Instructor

CIG 774  
Credits 3  
Gender and Sexuality of Education  
Examines current research and scholarship on curricular issues related to gender and sexuality in educational settings. The course will emphasize the pedagogical production of gender and sexual identities, drawing on gender, feminist, queer, postmodern and postcolonial theory. Prerequisites Doctoral Status or Consent of Instructor

CIG 775  
Credits 3  
Theoretical Frameworks for Science Education  
Examines the backgrounds and applications of a variety of theoretical frameworks for qualitative, quantitative, and mixed-methods research in science education, including constructivist, hermeneutic, and critical theory frameworks. Students will analyze and critique such frameworks as they apply toward their own potential research topics. Prerequisites Doctoral Status or Consent of Instructor

CIG 776  
Credits 3  
Philosophical Foundations of Science Education  
An exploration of the works of twentieth century philosophers of science who were most influential in shaping the thinking about science among science education community. Aims to help participants develop informed and critical views of nature of science and its implications for science teaching and learning. Prerequisites Doctoral status or Consent of Instructor

CIG 777  
Credits 3  
Principles of Learning Science  
This advanced course is designed to develop an understanding of the theoretical ideas related to how people learn scientific concepts. Using a combination of current research from cognitive science, educational psychology, and evaluations of classroom interventions, students will explore a range of topics that relate directly to science learning. Prerequisites Consent of instructor.

CIG 779  
Credits 3  
Advanced Seminar in Curriculum and Instruction  
Concentrated study of literature on specified topics in curriculum and instruction studies. Specific topic announced in the schedule of classes. Notes Maximum of six credits accepted toward a degree. Prerequisites Doctoral status and consent of instructor.

CIG 780  
Credits 3  
Research on Teaching and Schooling  
Examines, analyzes, and critiques research literature in contexts and cultures of teaching and schooling, teachers' knowledge and beliefs, school change and teacher change processes, and schooling for diverse learners. Prerequisites
Doctoral status. EPY 702 and CIG 761 or consent of instructor.

CIG 781 Credits 3
Theories and Research in Classroom Management
Assists teacher educators in exploring major models of classroom management with emphasis on developing strategies to promote teacher growth. Models include behavioristic, humanistic, and cognitive approaches toward managing student behavior. Development of classroom routines, preventive discipline, and organization of classroom environment.
Prerequisites Doctoral status.

CIG 782 Credits 3
School Climate
Study of research on effective schools relative to school climate; curricular, instructional, psychological, affective, and processing. Emphasis on utilization of research in developing and inservice education.
Prerequisites Doctoral status.

CIG 783 Credits 3
Theory and Research in School Mathematics
Analysis and evaluation of theories and research in school mathematics methods and curriculum with emphasis on theories and research leading to contemporary programs. Notes Maximum of six credits accepted toward a degree.
Prerequisites Doctoral status. Six hours of course work in educational research, one 700-level course in mathematics methods, and consent of instructor.

CIG 784 Credits 3
Theory and Research in School Science
Analysis and evaluation of theories and research in school science methods and curriculum with emphasis on theories and research leading to contemporary programs.
Notes Maximum of six credits accepted toward a degree. Prerequisites Doctoral status. Six hours of course work in educational research, one 700-level course in science methods, and consent of instructor.

CIG 785 Credits 3
Theory and Research in School Social Studies
Analysis and evaluation of theories and research in school social studies methods and curriculum with emphasis on theories and research leading to contemporary programs. Notes Maximum of six credits accepted toward a degree.
Prerequisites Doctoral status. Six hours of course work in educational research, one 700-level course in social studies methods, and consent of instructor.

CIG 786 Credits 1 – 6
Individual Instruction in Education
Application of theory, actual research, or replication of studies related to school education. Notes Maximum of six credits accepted toward degree. Must be approved prior to registration.
Prerequisites Doctoral status.

CIG 787 Credits 3
Individual Instruction in Mathematics Education
Application of theory, actual research, or replication of studies related to mathematics education. Notes Maximum of six credits accepted toward degree. Must be approved prior to registration. Prerequisites Doctoral status.

CIG 788 Credits 3
Individual Instruction in Science Education
Application of theory, actual research, or replication of studies related to science education. Notes Maximum of six credits accepted toward degree. Must be approved prior to registration. Prerequisites Doctoral status.

CIG 789 Credits 3
Individual Instruction in Social Studies Education
Application of theory, actual research, or replication of studies related to social studies education. Notes Maximum of six credits accepted toward degree. Must be approved prior to registration. Prerequisites Doctoral status.

CIG 790 Credits 3
Doctoral Research Seminar
Designed to assist a cohort of doctoral students in varying stages of dissertation development: prospectus writing, research design, data
collection, data analysis, and oral defense. Notes
Maximum of nine credits accepted toward a
degree. Prerequisites Doctoral status.

CIG 791 Credits 1 – 3
Internship in Curriculum and Instruction
Individually structured apprenticeship
experience preparing students for future service.
Requires up to 50 hour of work experience for
each credit earned. Notes Maximum of twelve
credits accepted toward a degree. Prerequisites
Doctoral status and consent of instructor.

CIG 799 Credits 3
Dissertation
May be taken for variable credits over a period
of several semesters, with final grade being
withheld until the dissertation has been
successfully defended. Once a student enrolls in
CIG 799, enrollment must be continuous until
the dissertation is successfully defended. Notes
May be repeated but only a maximum of 24
credits may be allowed in the student's program.
Grading S/F grading only. Prerequisites Consent
of advisor. 3-24 credits in increments of three.

CIS 632 Credits 3
Instruction Middle School Science Education
This course is designed for teachers of middle
school science. Course topics include: assessing
knowledge before instruction, designing
curriculum, planning lessons, promoting
inquiry-oriented teaching, teaching about
evolution and nature of science, scientific
literacy, laboratory safety, national and state
standards, using technology, and assessing
student learning. Prerequisites EDSC 463 or
consent of instructor.

CIS 513A Credits 3
Teaching Secondary Art
Provides an overview of methods and materials
to include instructional strategies, curriculum
standards, and classroom management
techniques for teaching secondary school art.
Students must have completed or be currently
enrolled in courses to complete three-fourths of
the content coursework in art. Corequisite CIS
602, CIS 603

CIS 543 Credits 3
Teaching Secondary Foreign/Second
Language
Provides an overview of theories, methods,
materials to include instructional strategies,
curriculum standards, and classroom
management techniques for teaching Languages
Other Than English (LOTE) at the secondary
school level. Students must have completed or
be currently enrolled in courses to complete
three-fourths of the content coursework in
LOTE. Prerequisites 20-24 semester credit hours
of LOTE. Corequisite CIS 602, CIS 603

CIS 553M Credits 3
Teaching Middle School Mathematics
Explore mathematics and its relation to
education in grades 6 through 9. The focus is to
develop skills in planning and teaching
mathematics. Lessons incorporate use of
technology, cooperative learning, and
manipulatives while providing an environment
to construct knowledge about arithmetic,
algebra, geometry, probability, and statistics.
Evaluation using formative and summative
strategies. Notes Credit at the 500 level normally
requires additional work. Prerequisites PPST
Corequisite Concurrent enrollment in a
practicum

CIS 553S Credits 3
Teaching Secondary Mathematics
The focus is on developing skills in planning and
teaching mathematics for grades 9 –12 that are consistent with Mathematics Standards. Students explore instructional strategies to develop understanding of concepts in the topic areas of arithmetic, algebra, geometry, trigonometry, calculus, probability, and statistics. Evaluation procedures use formative and summative strategies. Notes Credit at the 500 level normally requires additional work.

**Prerequisites** PPST  Corequisite Concurrent enrollment in a practicum.

**CIS 563**
**Teaching Secondary Science**
Credits 3
This course is designed for candidates intending to teach high school science. Course topics include: assessing knowledge before instruction, designing curriculum, planning lessons, promoting inquiry-oriented teaching, teaching about evolution and nature of science, scientific literacy, laboratory safety, national and state standards, using technology, and assessing student learning. Notes Credit at the 500 level normally requires additional work.

**Prerequisites** PPST  Corequisite Enrollment in a practicum and CIS 702.

**CIS 601**
**Secondary Teacher Development Seminar**
Credits 3
Designed for students entering the Secondary Graduate Licensure program. Examines contemporary trends for developing classroom expertise with observations in a middle or high school setting. Focuses on theory and practice in fostering personal and professional development for inservice teachers. **Prerequisites** Graduate standing. **Corequisite** Admission to Graduate Licensure Program.

**CIS 602**
**Secondary School Practicum**
Credits 3
Designed for Secondary Graduate Licensure students. Exposure to contemporary urban educational settings and basic management and planning strategies through structured experiences in a middle or high school settings, supplemented with campus-based instruction. **Prerequisites** PPST and CIS 601  **Corequisite** CIS 603 and subject area methods.

**CIS 603**
**Secondary Process and Instruction**
Credits 3
Designed to examine effective teaching practices and theories. Students examine research literature in classroom organization and management, instructional planning, classroom contexts and conditions. Provides analyses of the secondary classroom processes, school context, and the community at large. **Prerequisites** PPST and CIS 601  **Corequisite** CIS 602 and subject area methods.

**CIS 604**
**Secondary Classroom Management**
Credits 3
Students engage in the examination of theories, models and application of classroom management to develop a personal philosophy and effective practices of managing contemporary middle and high school classrooms. **Prerequisites** Graduate standing.

**CIS 610**
**Middle School History, Theory, and Philosophy**
Credits 3
Study of history, theory, and philosophy of middle school learning environments. Emphasis on application of theory and philosophy to contemporary middle school contexts.

**CIS 611**
**Instructional Trends for the Middle School Level**
Credits 3
Study of application of knowledge about instructional strategies, adolescent development, and models of teaching to the middle school context. Students design lessons appropriate for middle-level learners and examine literature on interdisciplinary teaching and middle-level learners. **Prerequisites** CIS 710

**CIS 612**
**Curriculum Development Middle School Education**
Credits 3
Studies application of curriculum development theory to middle school context. Emphasis on middle-level teacher's role in curriculum development. Students examine and develop interdisciplinary teaching units. **Prerequisites** CIE 685 or CIS 684 or CIS 686

**CIS 613**
**Contemporary Middle School Research**
Credits 3
Assessment of research practices and trends in middle schools. Emphasis on application of research findings to school classroom. Proposals for action research projects in middle school learning environment required. **Prerequisites** Three hours course work in research; six hours in middle school education.

**CIS 617**
**Topics Secondary Education**
Credits 1 – 3
Examines specific topics and issues related to content in secondary subjects. Notes Maximum of six credits accepted toward a degree. **Prerequisites** Current teaching certificate or consent of instructor.
CIS 618 Credits 3
Instructional Methods Secondary School
Study of research-based practice and methods related to curricular content in specific secondary subjects. Prerequisites Current teaching certificate or consent of instructor.

CIS 620 Credits 1 - 3
Topics Secondary School Mathematics
Examine specific topics and issues related to content and pedagogy in secondary mathematics education. Notes Maximum of six credits accepted toward a degree. Prerequisites Secondary mathematics undergraduate methods course and current teaching certificate.

CIS 622 Credits 3
Instructional Middle School Mathematics Education
Study of research-based practice and methods in middle school mathematics education. Prerequisites EDEL 433 or EDMS 453 or EDSC 453 or consent of instructor.

CIS 624 Credits 3
Instruction Secondary Mathematics Education
Study of research-based practice and methods in secondary school mathematics education. Prerequisites EDMS 453 or EDSC 453 or consent of instructor.

CIS 628 Credits 3
Technology Application in Secondary Mathematics Education
Study and development of research-based practices and methods of using computer-based technology to teach mathematics in secondary schools. Prerequisites CIS 622 or CIS 624 or consent of instructor.

CIS 629 Credits 3
Curriculum Development Secondary Mathematics Education
Examines research and curriculum studies related to content and procedures within secondary school mathematics programs. Prerequisites CIS 622 or CIS 624 or consent of instructor.

CIS 630 Credits 1 - 3
Topics Secondary School Science
Examine specific topics and issues related to content and pedagogy in secondary science education. Notes Maximum of six credits accepted toward a degree. Prerequisites Current teaching certificate or consent of instructor.

CIS 634 Credits 3
Instruction Secondary Science Education
Study of research-based practice and methods in secondary school science education. Prerequisites EDSC 463 or EDSC 563 and current teaching certificate or consent of instructor.

CIS 638 Credits 3
Technology Applications in Secondary Science Education
Study and development of research-based practices and methods of using computer-based technology to teach science in secondary schools. Prerequisites CIS 632 or CIS 634 or consent of instructor.

CIS 639 Credits 3
Curriculum Development Secondary Science Education
Examines research and curriculum studies related to content and procedures within secondary school science programs. Prerequisites CIS 632 or CIS 634 or consent of instructor.

CIS 640 Credits 1 - 3
Topics Secondary Social Studies Education
Examines specific topics and issues related to content and pedagogy in secondary social studies education. Notes Maximum of six credits accepted toward a degree. Prerequisites Current teaching certificate or consent of instructor.

CIS 644 Credits 3
Instruction Secondary Social Studies Education
Study of research-based practice and methods in secondary school social studies education. Prerequisites EDSC 473 or EDSC 573 and current teaching certificate consent of instructor.

CIS 649 Credits 3
Curriculum Development Secondary Social Studies Education
Examines research and curriculum studies related to content and procedures within secondary school social studies programs. Prerequisites CIS 644 or consent of instructor.

CIS 682 Credits 3
Secondary School Instruction
Examines effective teaching practices derived from classroom-based research. Includes instructional
planning, instructional strategies, motivational techniques, teaching models, and the teacher-as-researcher. **Prerequisites** EDSC 481 or consent of instructor.

**CIS 684**  
**Secondary Education Curriculum**  
Examines the major input variables to curriculum decision-making at the secondary level. Emphasis on the levels of curriculum decision-making, decision implementations, and curriculum evaluation.  
**Prerequisites** EDSC 481 or consent of instructor.

**CIS 686**  
**Curriculum Development Secondary Education**  
Introduces problem of conducting systematic inquiry in the curriculum field related to a subject area discipline, including generation of practical programs, curriculum research and theory, innovative proposals, and critical analysis. Current status of field, literature sources, and work of leading scholars.  
**Prerequisites** CIS 618 or CIS 684

**ESP 723**  
**Learning Strategies Instruction**  
Theoretical and practical aspects of implementing a learning strategy curriculum within elementary and secondary school environments. Class participants analyze, synthesize, and modify instructional strategies to meet the needs of students with disabilities.  
**Prerequisites** ESP 701

**CIS 533**  
**Teaching Secondary English**  
This course is designed for preservice teachers planning to teach high school English. Course topics include methods, materials, teaching techniques, and strategies unique to the English classroom, as well as curriculum design, lesson planning, assessment, and current issues in the teaching of English.  
**Notes**  
Credit at the 500 level normally requires additional work.  
**Corequisite** CIS 702
Howard R. Hughes College of Engineering

Welcome to the Howard R. Hughes College of Engineering. We believe you will find UNLV and the College of Engineering a great place to pursue your studies. With more than 60 faculty, 400 graduate students, and 1,400 undergraduates, we have a dynamic community of scholars. Beyond that, we’ve made innovations that have resulted in an imaginative, student-centered educational and research environment. We are growing, and our future looks very promising. UNLV is now a Research Intensive University, a distinction that the College of Engineering has played a major role in helping the university achieve.

Graduate students in the College of Engineering study a variety of disciplines, including computer science, construction management, civil and environmental, electrical and computer, informatics, and mechanical engineering. New programs are underway, and we are building first-class research facilities.

Graduate students are involved in all of the new and ongoing research being conducted by the faculty. Some of our research areas include transmutation of radioactive waste, air and water quality, data mining, materials research for the DOE stockpile stewardship program, vehicle and mass transit transportation, renewable energy (wind and solar), threat and terrorist defense, aerospace, and parallel processing and computer code development. One study we are currently conducting is with a “team” of five robots that play soccer and communicate with one another. This interdependent “soccer team” of robots is hoped to fuel the excitement of scientific and engineering discovery and to ultimately develop into research outcomes that serve mankind in a variety of ways. Some of these ways include automating many tasks in nonmanufacturing industries such as agriculture, construction, health care, entertainment, and education.

As the boundaries of science continue to expand, the College of Engineering is committed to offering students a variety of competitive programs. New master’s programs in aerospace engineering, bioengineering, and materials and nuclear engineering are currently being considered by the university administration. Entertainment engineering, a joint program with the College of Fine Arts, is also underway. The joint venture is anticipated to eventually become the premier program for entertainment technology in the country. The College of Engineering is an exciting place to pursue your graduate studies. We hope that you will join us at UNLV.

Rama Venkat, Dean
(1989), Professor and Dean; B.Tech., Indian Institute of Technology; M.S., Ph.D., Purdue University
Civil and Environmental Engineering and Construction

Chair
Hayes, Donald
(2011), Professor; B.S.C.E., M.S.C.E., Mississippi State University; Ph.D., Colorado State University; PE Louisianns and Mississippi

Graduate Coordinator
Karakouzian, Moses
(1988), Professor; B.C.E., American University of Beirut; M.S., M.B.A., Ph.D., Ohio State University; P.E., Ohio.

Graduate Faculty

Ahmad, Sajjad
(2006), Assistant Professor; B.S., University of Engineering and Technology, Lahore, Pakistan; M.E., Asian Institute of Technology, Bangkok, Thailand; Ph.D., University of Western Ontario, London, Ontario, Canada.

Batista, Jacimaria Ramos
(1997), Associate Professor; B.S., Federal University of Ouro Preto; M.S., Montana College of Mineral Science and Technology; Ph.D., Pennsylvania State University.

Ghafoori, Nader
(2003), Professor; B.S.C.E., Texas Tech University; M.S.C.E., Ph.D., University of Miami.

James, David E.
(1990), Associate Professor; A.B., University of California, Davis; M.S., Ph.D., California Institute of Technology.

Kaseko, Mohamed S.
(1993), Associate Professor; B.S., University of Dares-Salaam; M.S., Cornell University; Ph.D., University of California, Irvine.

Ladkany, Samaan
(1984), Professor; B.S., American University of Beirut; B.S., M.S., Ph.D., University of Wisconsin, Madison.

Luke, Barbara
(1995), Professor; A.A., University of Florida; B.S., Ph.D., University of Texas at Austin; M.S., University of California, Berkeley.

Neumann, Edward S.
(1991), Professor; B.S.C.E., Michigan Technological University; M.S., Ph.D., Northwestern University.

Opfer, Neil
(1989), Associate Professor; B.S., B.A., B.A., Washington State University; M.B.A., Purdue University; P.D., University of Wisconsin.

Paz, Alexander
(2008), Assistant Professor; B.S., University of Cauca, Colombia; M.S., University of Puerto Rico, Mayaguez Campus, PR; Ph.D., Purdue University.

Piechota, Thomas
(1999), Associate Professor; B.S., Northern Arizona University; M.S., Ph.D., University of California, Los Angeles.

Said, Aly
(2006), Assistant Professor; B.S., Ain Shams University, Cairo, Egypt; MScA, Universite de Moncton, Moncton, New Brunswick, Canada; MEng, McMaster University, Hamilton, Ontario, Canada, Ph.D., University of Western Ontario, London, Ontario, Canada.
Shields, David  
(2003), Associate Professor; B.S., M.S., Texas A & M University; Ph.D., University of Texas at Austin, P.E. (Arizona).

Shrestha, Pramen P.  
(2007), Assistant Professor; B.S., National Institute of Technology, India; M.S., Oklahoma State University; Ph.D., University of Texas at Austin; P.E. (Texas).

Teng, Hualiang  
(2004), Assistant Professor; B.S., M.S., Northern Jiaotong University; M.S.C.E., West Virginia University; Ph.D., Purdue University.

Tian, Ying  
(2007), Assistant Professor; B.S., Hebei Polytechnic University; M.S., Tsinghua University; M.S., Ohio State University; Ph.D., University of Texas at Austin.

**Professor Emeriti**

Frederick, Gerald R.  
(1993), Emeritus Professor; B.S., University of Toledo; M.S., Ph.D., Purdue University.

Vodrazka, Walter C.  
(1990), Emeritus Professor; B.C.E., Manhattan College; M.S., Mississippi State University; Ph.D., Purdue University.

Wyman, Richard V.  
(1969-1992), Emeritus Professor; B.S., Case Western Reserve University; M.S., University of Michigan; Ph.D., University of Arizona.

Well-equipped facilities developed by the department faculty include a Computer Assisted Design Laboratory, an Engineering Geophysics Laboratory and Test Site, an Environmental Engineering Laboratory, A Soil and Rock Mechanics Laboratory, the UNLV Transportation Research Center, and a Water Resources Laboratory. These facilities provide state-of-the-art research tools. Among these are a MTS dynamic testing machine, a triaxial testing apparatus, a 50-foot tilting flume, concrete testing facilities, a portable wind tunnel, a broad geophysical test equipment base anchored by a 7,000-lb (3 metric ton) programmable seismic source with 144-channel recording system, PCs, workstations, and current software programs are available within these facilities, with additional facilities being available in the college. Additional assets include access to high speed multiprocessor computers housed in the National Supercomputing Center for Energy and the Environment. All facilities are located in the Thomas Beam Engineering Complex. Additional research facilities nearby include one of twelve national EPA laboratories (located on campus) and the Department of Energy’s Nevada Test Site, which has been designated an Environmental Research Park.

Students with backgrounds in civil engineering as well as related disciplines are invited to apply. Students with science backgrounds desiring admission to the graduate program will be required to complete course work, prerequisite or otherwise, that will assure successful completion of the graduate program. Specific course work requirements will depend on the area of specialization desired by the applicant.

Applicants must identify a specialization from one of the following areas: environmental, fluids/hydraulics, geotechnical, structural, systems, or transportation. Applications for admission to the program are evaluated by faculty representing each of the respective areas of specialization. Applications from international students must reach the Graduate College by the dates specified in the catalog in order to be considered for financial aid. Offers of financial aid are made in writing by the department, which assumes no responsibility to provide financial support unless an offer is made in writing. Also, when the department has made an offer to provide financial support, it has no obligation to honor the offer unless the student attends UNLV and enrolls in the Civil and Environmental Engineering graduate program.
program during the initial semester for which financial aid was offered.

Applicants should notice that some documents must be mailed to the Graduate College while others must be mailed to the Department of Civil and Environmental Engineering and Construction, as outlined below. *It is imperative that the documentation is sent to the appropriate location to aid fast processing of the application.*

**Documents Required for Admission Consideration by the Department of Civil and Environmental Engineering and Construction:**

1. One official transcript from each post-secondary institution attended. Only transcripts sent directly from the institution are considered.
2. Letters of recommendation (two for M.S. and three for Ph.D. applicants).
3. One-page statement indicating the reasons why you wish to earn a M.S. or Ph.D. degree.
4. GRE General test scores taken in the last five years.

**Documents Required for Admission Consideration by the Graduate College:**

1. A complete application form and a non-refundable fee.
2. One official transcript of each post-secondary institution attended. International students must submit official translated copies of transcripts. Only transcripts sent directly from the institution to the UNLV Graduate College are considered.
3. Official TOEFL or Michigan Test Scores (only if English is not native language) taken in the last two years.
4. High School Leaving Certificate (for international students only)

The deadlines for application to the Civil and Environmental Engineering and Construction Department as well as the Graduate College:

**Spring Semester August 30** for international students and November 15 for domestic students

**Fall Semester March 15** for international students and June 15 for domestic students

**Programs**

- Engineering M.S.E.
- Engineering Ph.D.
- Transportation M.S.T.
- Construction Management M.S.C.M.

**Construction Management M.S.C.M.**

The Master of Science in Construction Management (M.S.C.M.) degree provides graduate-level study for those seeking mid- and upper-level management positions in the construction industry or continued study for the doctorate. Students with degrees in construction management, engineering, science, architecture and business, as well as related disciplines are invited to apply. Applications for admission to the program are evaluated on an individual basis by the program’s faculty.

**Admission Requirements**

Applicants are considered on an individual basis. Candidates can be admitted on a regular or provisional status. Qualified applicants who are not admitted on either status can take graduate courses as a non-degree student. A maximum of 15 credits taken as a UNLV non-degree graduate student may be applied toward the M.S.C.M. degree.

To be considered for admission:

1. Applicants must have an earned baccalaureate degree from a regionally accredited four-year college or university with preferred study in construction, engineering, architecture, business, or closely related area.
2. Overall undergraduate GPA should be at least 2.75 (4.00=A) for the bachelor’s
degree or at least 3.00 (4.00=A) for the last two years of undergraduate work.

3. Credit (in semester hours) must have been earned in the following subjects or their equivalents:
   MATH 181 Calculus I
   PHYS 151/151L General Physics I
   CEM 250/250L Construction Materials & Methods
   CEM 270 Construction Engineering Mechanics
   A course in construction or engineering graphics
   The leveling courses required of a student before entering the M.S.C.M. program will be determined on an individual basis. The student will be notified in writing of any deficiencies prior to admission to the program. Students with deficiencies exceeding two courses may need to satisfactorily complete them before admission to the graduate program.

4. The applicant must obtain a satisfactory score on the Graduate Record Examination (GRE) as determined by the Graduate Program Committee (GPC).

5. Applicants from countries where English is not the native language, or do not receive a degree from an institution where English is the language of instruction, must show competency in English. A minimum score on the Test of English as a Foreign Language (TOFEL), of at least 213 (computerized), or 550 (written), or 80 (Internet-based) or the Michigan Test with a score of 85. An official report of the score must be submitted to the Graduate College.

6. Please refer to the sections under Admission and Registration Information for complete details of Graduate College application deadlines, admission requirements, and application procedures for domestic and international students. Admission is on a competitive basis.

7. Each applicant must submit official transcripts from all previously attended postsecondary institutions to the Graduate College.

8. Each applicant must also submit to the program two letters of recommendation from individuals familiar with their knowledge, skills and abilities, and a one-page Statement of Objectives describing the reasons why they wish to earn a master’s degree and indicating the area of concentration within the construction management discipline in which they wish to pursue graduate work.

Degree Requirements

1. Each student in conjunction with the Program’s Graduate Coordinator will select either the Thesis option or Project Option.
      i. Student’s pursuing the thesis option shall have an Advising Committee composed of at least four members of the UNLV Graduate Faculty of which at least two must be tenured or tenure-track members of the Construction Management Program, the third from the Construction Management Program or a related field, and the fourth must be appointed by the Graduate College.
   ii. Requires completion of at least 30 credits, comprised of 18 required 600/700-level credits of CEM and MBA course work (see 2.a and 2.b below), six credits of approved electives, and six credits of thesis research. The final examination will include a defense of the thesis. Completion of a thesis requires the student to make a unique contribution to the existing knowledge in the field of construction.
management or engineering. The effort must include the development of a contemporary research topic and the methodology for investigating the topic. The student is required to undertake the research effort to investigate the topic. The thesis prepared as part of this option shall include a literature review, description of the research topic, methodology, and results, and present conclusions obtained from the research effort and recommendations for further work.

iii. The thesis option student’s program of study must be approved by the student’s advisory committee.

2. Project Option.
3. Requires completion of at least 36 credits comprised of 18 required 600/700-level credits of CEM and MBA course work (see 2.a and 2.b), 15 credits of approved electives of which nine credits must be 600/700-level credits of CEM (see 2.c).
   a. Additional course requirement:
   b. CEM 796 - Special Project in Construction Engineering and Management (minimum 3 credits)
4. Completion of a project requires the student to investigate and solve, or propose solutions to, a problem related to the field of construction management. It is expected that the results of this effort will be beneficial for and applied to other construction-related projects or problems. The project report prepared for this option shall include a description of the issue investigated, how the investigation was performed, the results obtained, conclusions regarding the investigation, and recommendations for further work.

5. Program course requirements. Both graduate degree options require students to:
   Complete the following courses:
   - CEM 651 - Construction Estimating
   - CEM 653 - Construction Scheduling and Resource Optimization
   - CEM 700 - Research Methods in Construction Management
   - CEM 750 - Advanced Construction Scheduling
   or
   - CEM 751 - Construction Cost Analysis and Estimating
   - CEM 685 - Construction Law and Contracts
   or
   - CEM 740 - Construction Safety and Performance Improvement
   or
   - CEM 775 - Construction Operations and Management
   or
   - CEM 705 - Construction Engineering Management
   or
   - MBA 702 - Statistical Analysis

6. Other courses may be substituted upon written permission of the student’s graduate faculty advisor. Students who have credit in CEM 451 and CEM 453 or equivalent courses will select two other courses from the approved elective list.
   a. Complete the following courses within the first two semesters of study:
      - MBA 702 - Statistical Analysis
      - CEM 700 - Research Methods in Construction Management
   b. The student’s graduate program to show suitable breadth and
coherence. As specified in the Academic Policies section of this catalog, the proposed graduate degree program must be submitted to the Graduate College prior to completion of 16 credit hours of course work toward the degree. The responsibility for meeting this requirement rests with the student. Students will be placed on probation or separated from the program if they neglect this requirement.

i. The **thesis option program** of study will be jointly developed by the student and advisor, approved by the student’s committee, and then filed with the Graduate College.

ii. The **project option program** of study will be jointly developed by the student and advisor, then filed with the Graduate College.

7. **Performance Requirements:**
   
   a. Students must make satisfactory progress and comply with all Graduate College and Howard R. Hughes College of Engineering policies. If progress is not satisfactory, probation and separation from the graduate program may result, in accordance with the rules of the Graduate College. Satisfactory progress is defined as filing an approved graduate degree program before the completion of 16 credit hours of course work, completion of at least six credits of the approved program per calendar year, maintenance of a GPA of 3.00 (4.00), no grades below C and compliance with the letter and spirit of the Graduate Catalog and published policies of the Howard R. Hughes College of Engineering. Additionally, no more than nine credits below B are allowed in the student’s graduate program. If progress is not satisfactory, probation and separation may result, in accordance with the rules of the Graduate College. Any student whose GPA falls below 3.00 will be placed on probation and will have two semesters to raise it to 3.00 or above. Students who are awarded a graduate assistantship must be enrolled in 9 credit hours per semester and must elect the thesis option.

**Engineering M.S.E.**

**Admission Requirements**

In addition to the general requirements for admission to the Graduate College, an applicant for the M.S.E. program must have a bachelor’s degree in engineering or a closely related discipline. Applicants desiring to specialize in environmental engineering who have baccalaureate degrees in the natural sciences may require at least an additional semester of full-time study to complete engineering prerequisite undergraduate course work; this may include fluid mechanics, calculus through differential equations, engineering physics, chemistry and engineering economics.

Successful environmental engineering applicants are expected to complete a set of graduate courses in engineering hydrology, hydraulics, statistics, water and wastewater treatment, and wastewater treatment plant design during their graduate study. All applicants must submit a one-page Statement of Objectives indicating the area of civil engineering in which they wish to pursue graduate work and the reason they wish to earn a master’s degree. All applicants are required to take the verbal, quantitative, and analytical writing portions of the GRE General Test and submit the scores to the Civil and Environmental Engineering department.

Successful applicants generally have a combined
verbal and quantitative GRE score of at least 1000 and GRE analytical writing score of at least 3. Applicants from countries where English is not the native language must take the Test of English as a Foreign Language, earn scores of at least 213 (computerized) or 550 (written), and submit an official report of the score to the Graduate College.

Degree Requirements

Procedures and requirements for the M.S.E. will be as prescribed by the Graduate College under Academic Policies, with additional provisions as follows:

1. At least 15 credits must be earned from courses numbered 700 or above, of which at least 12 credits must be offered by the College of Engineering.

2. The program of study for each student must be approved by the student’s advisory committee. Subject to the approval by the student’s graduate committee, the student may choose one of these options: Thesis Option. Requires the satisfactory completion of CEE 700 during the first year and 21 credits of approved graduate courses plus six credits of work associated with the master’s level thesis, for a total of 30 credits. The final examination will include a defense of thesis. Non-Thesis Option. This course-only option requires satisfactory completion of 33 credits of graduate courses approved by the student’s advisory committee, of which at least 50 percent must be 700 level offered by the College of Engineering.

3. Satisfactory progress is defined as filing an approved program before the completion of nine credits of course work, completion of at least six credits of the approved program per calendar year, maintenance of a GPA of 3.00 (4.00), no grades below C and compliance with the letter and spirit of the Graduate Catalog and published policies of the Howard R. Hughes College of Engineering. Additionally, no more than nine credits below B are allowed in the student’s graduate program. If progress is not satisfactory, probation and separation may result, in accordance with the rules of the Graduate College. Any student whose GPA falls below 3.00 will be placed on probation and will have one semester to raise it to 3.00 or above.

4. The student’s Advising Committee should be composed of at least four members of the UNLV Graduate Faculty of which at least two must be tenured or tenure-track members of the Department of Civil and Environmental Engineering, the third from the Department of Civil and Environmental Engineering or a related field, and the fourth must be appointed by the Graduate College.

5. Each student’s program should show suitable breadth and coherence, as specified in the Graduate Catalog. Prior to filing, the program must receive approval by the student’s committee. An approved program must be filed before the completion of nine credits of course work after admission (regular or provisional). The responsibility rests with the student. Students will be dropped from the graduate engineering program if they neglect this requirement.

Requirements for M.S.E. with special emphasis in Geographic Information Systems

Procedures and requirements for the M.S.E. in Civil and Environmental Engineering with special emphasis in Geographic Information Systems are as prescribed in the general M.S.E. requirements as stated above, with additional provisions as follows:

1. Seventeen credits must be earned by successful completion of the following courses:
   - CEE 668 - GIS Applications in Civil Engineering
   - CEE 768 - Applied Geographic Information Systems or
   - EGG 768 - Applied Geographic Information Systems
   - CS 733 - Geographic Data Base Systems
• STA 751 - Spatial Statistics

and one of the following two courses:
• STA 667 - Introduction to Mathematical Statistics
• STA 691 - Statistics for Scientists I

2. Recommended undergraduate electives (not for graduate credit) include:
• CS 135 and Computer Science I
• CS 202 Computer Science II
• CS 117 Programming for Scientists and Engineers
• MAT 265 Computing Linear Algebra

3. Recommended graduate electives (not to satisfy remaining Civil and Environmental Engineering M.S.E. credits) include:
• CS 680 - Computer Graphics
• EGG 769 - Applied Modeling with Geographic Information Systems

Engineering Ph.D.

Admission Requirements
Admission to the program leading to the Ph.D. in Engineering in the field of Civil and Environmental Engineering is open to those students completing the following requirements:

1. Application must be made to the Department of Civil and Environmental Engineering. Applications must include all documentation as required by the Graduate College. The Department of Civil and Environmental Engineering will admit the student and supervise the student’s Ph.D. program.

2. The applicant must have a Master of Science in Engineering degree or equivalent with a major in civil engineering or a closely allied field. Students with non-engineering backgrounds will be required to complete a set of course work requirements that will assure successful completion of the Ph.D. specialization and qualify the student to sit for the Fundamentals of Engineering (FE) exam. Special cases will be decided upon by the Graduate Program Committee (GPC).

3. The applicant must submit a written statement of purpose indicating interests and objectives in working toward a Ph.D. degree. In addition, three letters of recommendation for Ph.D.-level study must be submitted.

4. Applicants from countries where English is not the native language must take the Test of English as a Foreign Language, earn scores of at least 213 (computerized) or 550 (written), and submit an official report of the score to the Graduate College.

5. The GPC will examine the applicant’s academic record and will make the final determination of the applicant’s admissibility to the Ph.D. program. In general, a minimum post-baccalaureate GPA of 3.20 on a 4.00 scale or equivalent is required for admission.

6. All applicants are required to take the verbal, quantitative, and analytical writing portions of the GRE General Test and submit the scores to the Civil and Environmental Engineering department. Successful applicants generally have a combined verbal and quantitative GRE score of at least 1000 and GRE analytical writing score of at least 3.

7. The applicant must be formally admitted by UNLV’s Graduate College.

Degree Requirements
The degree requirements for the Ph.D. in Engineering in the Department of Civil and Environmental Engineering include the following:

1. A Doctoral Advisory Committee composed of at least five members of the UNLV graduate faculty is to be formed for the student. At least three of the committee members must be from tenured or tenure-track members of the Department of Civil and Environmental Engineering, the fourth from the Department of Civil and Environmental Engineering or a related
field, and the fifth must be appointed by the Graduate College.

2. The program of study must be submitted by the second semester of study. The program of study is to be prepared by the student and his/her doctoral advisor, and must be approved by the student’s Doctoral Advisory Committee and the GPC.

3. A minimum of 27 credit hours of course work beyond the degree of Master of Science in Engineering or equivalent is required. A minimum of 18 of these credits must be 700-level courses. Doctoral students must complete CEE 700 prior to taking the Qualifying Examination. For students who have completed CEE 700, or equivalent, during their Master of Science studies, CEE 700 may be waived and replaced by another 700-level course. The student’s Doctoral Advisory committee may add additional requirements in accordance with the individual’s background and area of study.

4. In addition to these course requirements, a dissertation consisting of at least 18 credits (CEE 799) is required.

5. Students whose mother tongue is not English must demonstrate a satisfactory command of the English language by passing the advanced level on the Michigan test during the first year of study.

6. In order to show breadth and depth of knowledge in his/her discipline, the doctoral student must pass either a written qualifying exam, an oral qualifying exam, or both as determined by the student’s Doctoral Advisory Committee. These examinations are prepared by the faculty and supervised by the GPC. These qualifying exams must be scheduled after the completion of one year of study but not before the completion of at least 12 credits of course work.

7. The doctoral student must pass a preliminary exam consisting of the preparation of a written proposal for the dissertation research followed by an oral defense of the proposal. The dissertation must be approved by the student’s Doctoral Advisory Committee.

8. All requirements for the Ph.D. are met upon the satisfactory completion of the proposed research, the submission of a satisfactory dissertation, and the successful oral defense of the dissertation before the Doctoral Advisory Committee.

Transportation M.S.T.

The Master of Science in Transportation degree program is terminal in nature and oriented toward the practice of transportation science, with emphasis on the planning and operations aspects of transportation systems. It is intended for applicants who have backgrounds in areas other than engineering or closely related disciplines, and who either presently work for or aspire to work for transportation agencies or firms.

Admission Requirements

Applicants must have a Bachelor of Science or Bachelor of Arts degree. It is desirable to have a degree in one of the following areas: urban or regional planning, architecture, business, economics, public administration, quantitative geography, computer science, mathematics, operations research, statistics, political science, physical science, or similar discipline. The undergraduate GPA must be at least 3.00 and credit must have been earned in the following subjects, or equivalent subjects, with a grade of B or better: MAT 180 (3 credits), PHY 155 (4 credits), computer Science or Management Information Systems (3 credits), ECO 201 or ECO 261 (3 credits). CEE 362 (3 credits) also is required of applicants who have not had at least one year of acceptable experience with a transportation agency. Applicants are required to submit scores from the verbal, analytical, and quantitative portions of the GRE General Test, and a two-page Statement of Objectives indicating a) previous work experience, particularly in transportation, b) the reason they wish
to pursue the M.S.T. program; and c) how the degree will be utilized following graduation. Applicants also must submit two letters of recommendation from individuals familiar with their skills and abilities.

Contact the department for additional information. All applicants are required to take the verbal, quantitative, and analytical writing portions of the GRE General Test and submit the scores to the Civil and Environmental Engineering department. Successful applicants generally have a combined verbal and quantitative GRE score of at least 1000 and GRE analytical writing score of at least 3. Applicants from countries where English is not the native language must take the Test of English as a Foreign Language, earn scores of at least 213 (computerized) or 550 (written), and submit an official report of the score to the Graduate College.

The degree offered is a Master of Science in Transportation (M.S.T.). Completion of the degree does not qualify the student with a non-engineering background to sit for the Fundamentals of Engineering (FE) exam. Satisfactory progress is defined as filing an approved program before the completion of nine credits of course work, completion of at least six credits of the approved program per calendar year, maintenance of a GPA of 3.00 (4.00), not grades below C and compliance with the letter and spirit of the Graduate Catalog and published policies of the Howard R. Hughes College of Engineering. Additionally, no more than nine credits below B are allowed in the student’s graduate program. If progress is not satisfactory, probation and separation may result, in accordance with the rules of the Graduate College. Any student whose GPA falls below 3.00 will be placed on probation and will have one semester to raise it to 3.00 or above. The student’s Advising Committee should be composed of at least four members of the UNLV Graduate Faculty of which at least two must be tenured or tenure track members of the Department of Civil and Environmental Engineering, the third from the Department of Civil and Environmental Engineering or a related field, and the fourth must be appointed by the Graduate College.

**Degree Requirements**

The program of study for each student must be approved by the student’s advisory committee. The degree requires completion of 33 credits including a three-credit project; a minimum of 21 credits must be taken in civil engineering courses, and 12 credits may be taken from other departments. The program is highly quantitative in nature and requires aptitude and familiarity with analytic and mathematical reasoning. Course work is rigorous, and students in the program will be taking the same courses offered to engineering students.

**Required Courses**

A total of six additional civil engineering elective credits are taken from two options.

- CEE 609 - Engineering Project Management
- CEE 663 - Traffic Engineering
- CEE 760 - Transportation Planning and
- CEE 765 - Public Transportation Systems

**CEE 604**

Open Channel Flow

This upper-division engineering course is open to graduate students, provided it demonstrates a level of accomplishment suitable to graduate study. The Undergraduate Catalog should be consulted for a description of the course. In the Undergraduate Catalog, the course is numbered as 4XX, where the XX represents the same last two digits as the 600 course listed (for example, the description for CEE 604 appears under CEE 404).

**CEE 606**

Hydrologic Analysis and Design

This upper-division engineering course is open to graduate students, provided it demonstrates a level of accomplishment suitable to graduate study. The Undergraduate Catalog should be consulted for a description of the course. In the Undergraduate Catalog, the course is numbered as 4XX, where the XX represents the same last two digits as the 600 course listed (for example, the description for CEE 604 appears under CEE 404).

**CEE 609**

Engineering Project Management
This upper-division engineering course is open to graduate students, provided it demonstrates a level of accomplishment suitable to graduate study. The Undergraduate Catalog should be consulted for a description of the course. In the Undergraduate Catalog, the course is numbered as 4XX, where the XX represents the same last two digits as the 600 course listed (for example, the description for CEE 604 appears under CEE 404).

CEE 610
Highway Construction Materials
This upper-division engineering course is open to graduate students, provided it demonstrates a level of accomplishment suitable to graduate study. The Undergraduate Catalog should be consulted for a description of the course. In the Undergraduate Catalog, the course is numbered as 410.

CEE 612
Advanced Mechanical Properties of Engineering Materials
This upper-division engineering course is open to graduate students, provided it demonstrates a level of accomplishment suitable to graduate study. The Undergraduate Catalog should be consulted for a description of the course. In the Undergraduate Catalog, the course is numbered as 416.

CEE 621
Professional Engineering Practice
This upper-division engineering course is open to graduate students, provided it demonstrates a level of accomplishment suitable to graduate study. The Undergraduate Catalog should be consulted for a description of the course. In the Undergraduate Catalog, the course is numbered as 421.

CEE 632
Geological Engineering
This upper-division engineering course is open to graduate students, provided it demonstrates a level of accomplishment suitable to graduate study. The Undergraduate Catalog should be consulted for a description of the course. In the Undergraduate Catalog, the course is numbered as 432.

CEE 634
Rock Mechanics
This upper-division engineering course is open to graduate students, provided it demonstrates a level of accomplishment suitable to graduate study. The Undergraduate Catalog should be consulted for a description of the course. In the Undergraduate Catalog, the course is numbered as 434.

CEE 635
Foundations Engineering
This upper-division engineering course is open to graduate students, provided it demonstrates a level of accomplishment suitable to graduate study. The Undergraduate Catalog should be consulted for a description of the course. In the Undergraduate Catalog, the course is numbered as 435.

CEE 636
Engineering Geophysics
This upper-division engineering course is open to graduate students, provided it demonstrates a level of accomplishment suitable to graduate study. The Undergraduate Catalog should be consulted for a description of the course. In the Undergraduate Catalog, the course is numbered as 436.

CEE 644
Steel Structural Design
This upper-division engineering course is open to graduate students, provided it demonstrates a level of accomplishment suitable to graduate study. The Undergraduate Catalog should be consulted for a description of the course. In the Undergraduate Catalog, the course is numbered as 444.

CEE 650
Unit Operations/Processes in Environmental Engineering
description of the course. In the Undergraduate Catalog, the course is numbered as 450.

CEE 650L
Unit Operations/Processes Laboratory
This upper-division engineering course is open to graduate students, provided it demonstrates a level of accomplishment suitable to graduate study. The Undergraduate Catalog should be consulted for a description of the course. In the Undergraduate Catalog, the course is numbered as 450L.

CEE 651
Water and Wastewater Quality Analysis
This upper-division engineering course is open to graduate students, provided it demonstrates a level of accomplishment suitable to graduate study. The Undergraduate Catalog should be consulted for a description of the course. In the Undergraduate Catalog, the course is numbered as 451.

CEE 652
Air Pollution Control Fundamentals
This upper-division engineering course is open to graduate students, provided it demonstrates a level of accomplishment suitable to graduate study. The Undergraduate Catalog should be consulted for a description of the course. In the Undergraduate Catalog, the course is numbered as 452.

CEE 654
Solid and Hazardous Wastes Engineering
This upper-division engineering course is open to graduate students, provided it demonstrates a level of accomplishment suitable to graduate study. The Undergraduate Catalog should be consulted for a description of the course. In the Undergraduate Catalog, the course is numbered as 454.

CEE 655
Chemical Processes for Water Quality Control
This upper-division engineering course is open to graduate students, provided it demonstrates a level of accomplishment suitable to graduate study. The Undergraduate Catalog should be consulted for a description of the course. In the Undergraduate Catalog, the course is numbered as 455.

CEE 663
Traffic Engineering
This upper-division engineering course is open to graduate students, provided it demonstrates a level of accomplishment suitable to graduate study. The Undergraduate Catalog should be consulted for a description of the course. In the Undergraduate Catalog, the course is numbered as 463.

CEE 664
Airport Design
This upper-division engineering course is open to graduate students, provided it demonstrates a level of accomplishment suitable to graduate study. The Undergraduate Catalog should be consulted for a description of the course. In the Undergraduate Catalog, the course is numbered as 464.

CEE 665
Fire Protection Engineering
This upper-division engineering course is open to graduate students, provided it demonstrates a level of accomplishment suitable to graduate study. The Undergraduate Catalog should be consulted for a description of the course. In the Undergraduate Catalog, the course is numbered as 465.

CEE 666
Geometric Design of Highways
This upper-division engineering course is open to graduate students, provided it demonstrates a level of accomplishment suitable to graduate study. The Undergraduate Catalog should be consulted for a description of the course. In the Undergraduate Catalog, the course is numbered as 466.

CEE 667
Computer Applications in Transportation Engineering
This upper-division engineering course is open to graduate students, provided it demonstrates a level of accomplishment suitable to graduate study. The Undergraduate Catalog should be consulted for a
description of the course. In the Undergraduate Catalog, the course is numbered as 467.

CEE 668
GIS Applications in Civil Engineering
This upper-division engineering course is open to graduate students, provided it demonstrates a level of accomplishment suitable to graduate study. The Undergraduate Catalog should be consulted for a description of the course. In the Undergraduate Catalog, the course is numbered as 468.

CEE 676 - Earthquake Engineering
This upper-division engineering course is open to graduate students, provided it demonstrates a level of accomplishment suitable to graduate study. The Undergraduate Catalog should be consulted for a description of the course. In the Undergraduate Catalog, the course is numbered as 476.

CEE 677
Design of Underground Structures
This upper-division engineering course is open to graduate students, provided it demonstrates a level of accomplishment suitable to graduate study. The Undergraduate Catalog should be consulted for a description of the course. In the Undergraduate Catalog, the course is numbered as 477.

CEE 678
Applied Finite Element Analysis
This upper-division engineering course is open to graduate students, provided it demonstrates a level of accomplishment suitable to graduate study. The Undergraduate Catalog should be consulted for a description of the course. In the Undergraduate Catalog, the course is numbered as 478.

CEE 680
Concrete Design
This upper-division engineering course is open to graduate students, provided it demonstrates a level of accomplishment suitable to graduate study. The Undergraduate Catalog should be consulted for a description of the course. In the Undergraduate Catalog, the course is numbered as 480.

CEE 682
Design of Timber Structures
This upper-division engineering course is open to graduate students, provided it demonstrates a level of accomplishment suitable to graduate study. The Undergraduate Catalog should be consulted for a description of the course. In the Undergraduate Catalog, the course is numbered as 482.

CEE 695
Special Topics
This upper-division engineering course is open to graduate students, provided it demonstrates a level of accomplishment suitable to graduate study. The Undergraduate Catalog should be consulted for a description of the course. In the Undergraduate Catalog, the course is numbered as 495.

CEE 700
Research Methods in Civil and Environmental Engineering
Methods to improve and develop research skills and prepare students for professional careers at the graduate level. Includes principles of scientific research, ethics, writing skills, methods for compiling scientific literature, identification of research questions and specific hypotheses, presentation of research results, writing research papers, proposal preparation, preparation of grant proposals, thesis and dissertation.

CEE 703
Turbulence
Topics include the origin of turbulence, dynamics of turbulent flows, free shear flows, bounded shear flows, transport phenomena, semiempirical theories, statistical descriptions, spectral dynamics.
Prerequisites: ME 700 and Graduate standing

CEE 704
Environmental & Water Systems
Introduction to techniques to evaluating alternatives in environmental and water resources systems. Topics include southwest U.S. water economic analysis, optimization using linear and dynamic programming, systems modeling using STELLA, analysis of droughts, and current research topics.
Applications focus on surface water systems, operation, and reservoirs, water distribution and environmental systems. Prerequisites: CEE 413

CEE 705 Credits 3
Fluid Dynamics in Porous Media I
Engineering analysis of fluid flows in porous media. Includes development of the basic equations, analysis of steady and unsteady flows, multidimensional flows, analytical solutions using conformal mapping, analog methods, finite difference and finite element modeling, and transport phenomena. Prerequisites: CEE 705

CEE 706 Credits 3
Fluid Dynamics in Porous Media II
Finite element solution of flow problems in porous media. Topics include steady and unsteady saturated flows, unsaturated flows, mass transport problems, and coupled transport problems such as combined mass-thermal flows. Prerequisites: ME 700 or consent of instructor.

CEE 708 Credits 3
Hydraulic Transients
Analysis of unsteady fluid flow problems in liquid and gas transmission systems of practical interest. Emphasis placed on computer solutions. Topics include methods of characteristics, water-hammer, effect of pumps, turbines, valves, etc.; column separation; control of transient conditions; oscillatory flow and resonance; open channel transient flow. Prerequisites: Graduate standing or consent of instructor.

CEE 709 Credits 3
Numerical Methods in Mechanics
Numerical solution of partial differential equations arising from problems in mechanics. Emphasis on finite difference techniques. Topics include classification of equations: solutions of elliptic, parabolic, and hyperbolic equations; stability, consistency and convergence and nonlinear equations; multidimensional problems; systems of equations; discontinuous solutions. Prerequisites: MATH 466 or ME 445 or consent of instructor.

CEE 711 Credits 3
Continuum Mechanics
Matrices and tensors, stress deformation and flow, compatibility conditions, constitutive equations, field equations and boundary conditions in fluids and solids, applications in solid and fluid mechanics. Prerequisites: MATH 431 and graduate standing.

CEE 722 Credits 3
Advanced Air Pollution Control
Fundamental chemical and physical principles of generation and control of air pollutants, and applications to pollution control equipment. Pollutant and particle formation during combustion. Gas absorption and absorption fundamentals and tower/column design. Pollution control strategies. Prerequisites: CEE 452/CEE 652, MATH 432, ME 311, or equivalents. Strongly recommended: ME 314 and MAT 665 or equivalents.

CEE 731 Credits 3
Pavement Materials and Design
In-depth study of pavement materials such as soils, asphaltic concrete and Portland cement concrete; analytical and empirical methods for design of flexible and rigid pavements; pavement rehabilitation management. Includes highway and airfield pavements. Prerequisites: CEE 334, CEE 334L, CEE 362

CEE 732 Credits 3
Advanced Foundation Engineering
Detailed study and analysis of the mechanical properties of soils with applications to foundation behavior. Prerequisites: CEE 334, CEE 334L, CEE 435

CEE 734 Credits 3
Advanced Soil Mechanics
Stress-strain properties and shear strength of soil: settlements and stability analysis. Prerequisites: CEE 334, CEE 334L

CEE 735 Credits 3
Earth Dams and Embankments
Principles governing the flow of water through soils and their applications to design of earth dams and
embankments. Methods of earth dam design, including earthquake design, theory of wells, and groundwater flow. **Prerequisites:** CEE 334 and CEE 478/CEE 678

**CEE 736**
**Credits 3**
**Earth Slopes and Retaining Structures**
Analysis and design of stable earth slopes, including slopes cut from natural deposits and engineered embankments. Analysis and design of earth retaining structures. Both theoretical and practical aspects of design discussed. **Prerequisites:** CEE 334, CEE 334L

**CEE 737**
**Credits 3**
**Soil Dynamics and Earthquake Engineering**
Use of dynamics in geotechnical engineering, for nondestructive characterization of engineering materials, and for design of foundations subjected to dynamic loads. Geotechnical aspects of earthquake engineering, particularly effect of soils on ground-surface motions, and soil liquefaction during earthquakes. **Prerequisites:** CEE 334, CEE 334L

**CEE 741**
**Credits 3**
**Design of Highway Bridge Structures**
Review of types of highway bridges. Application of the AASHTO Bridge Specifications including dead load, live load and impact. Design of steel, reinforced and prestressed concrete bridge superstructures and their substructures. Span lengths through 150 feet. **Prerequisites:** CEE 444, CEE 480 and graduate standing.

**CEE 743**
**Credits 3**
**Design of Masonry Structures**
Study of the principles of masonry design applied to structural design of building components and retaining walls. Discussion of wind and seismic loadings. Analysis and design of shear walls. **Prerequisites:** CEE 480 and graduate standing.

**CEE 744**
**Credits 3**
**Design of Prestressed/Post-Tensioned Concrete Structures**
Study of principles of prestressed concrete, both pretensioned and post-tensioned, applied to structural design of buildings and bridges. Discussion of effects of lateral loads on structures. Introduction to analysis and design of shear walls. Discussion of connections between members. **Prerequisites:** CEE 480 and graduate standing.

**CEE 745**
**Credits 3**
**Advanced Topics in Concrete and Steel Structures**
Advanced theoretical analysis and design of reinforced concrete, prestressed and composite steel-concrete structures. Topics include beam torsion, stability of tall columns, local buckling effects, biaxially loaded columns, composite decks, ponding on steel roofs, and introduction to prestressed concrete structures. **Prerequisites:** CEE 480 or consent of instructor.

**CEE 747**
**Credits 3**
**Introduction to Analysis and Design of Plates and Shells**
Introduction to the analysis and design of plates and shell structures. Bending of flat rectangular and circular plates with various boundary and loading conditions. Membrane analysis of spherical, cylindrical shells, and shells of revolution with ring reinforcement. **Prerequisites:** CEE 381 and graduate standing.

**CEE 748**
**Credits 3**
**Advanced Design of Timber Structures**
Study of wood as an engineering material used in various types of construction. Strength properties of timber, structural properties of plywood, analysis and design of timber beams, timber columns, analysis and design of connections using nails, bolts, and adhesives. **Prerequisites:** MATH 431 and any one of CEE 444, 480 or 482.

**CEE 749**
**Credits 3**
**Advanced Topics in Finite Element Analysis**
Properties and applications of isoparametric elements, solids of revolution elements, plate bending elements, finite elements of dynamics, vibrations and buckling instability. Introduction to nonlinear problems using finite element analysis. **Prerequisites:** CEE 478 or consent of instructor.
CEE 750 Credits 3
Urban Runoff Quality and Control
Study of the quality of urban runoff during wet and dry periods. Topics include: review of hydrologic concepts, modeling water quantity and quality in stormwater systems, water quality of non-point sources, control structures or Best Management Practices (BMPs), evaluation of current research, discussion of current regulations. Prerequisites: CEE 413 and CEE 450 or consent of instructor.

CEE 751 Credits 3
Advanced Topics in Wastewater Engineering
Fundamentals of aeration and gas transfer, natural systems for effluent polishing, impacts of effluent discharges in natural water systems. Wastewater reuse issues. Sludge management including dewatering, conditioning, composting, and final disposal. Prerequisites: Graduate standing and CEE 450 or CEE 650 or equivalent.

CEE 752 Credits 3
Advanced Water and Wastewater Analysis
Fundamentals and quantitative analysis or the standard methods used by environmental engineers to analyze drinking water and wastewater and control water quality. Topics include total organic carbon, solids analysis, alkalimetry, UV/VIS spectrophotometry, carbon absorption, ion exchange, AA spectrometry, ion chromatography (IC), phase partitioning, advanced oxidation. Prerequisites: CEE 451/CEE 651 and graduate standing, or consent of instructor.

CEE 753 Credits 3
Air Pollution Atmospheric Processes
Fundamentals of aerosol composition, formation and coagulation. Atmospheric photochemistry and atmospheric transport. Computer methods emphasized. Applications to pollution control strategies for urban areas. Prerequisites: CS 117, CEE 452/CEE 652 or equivalent, MATH 431.

CEE 754 Credits 3
Biochemical Wastewater Treatment Fundamentals
Underlying chemical, microbiological, and biochemical principles considered when designing suspended and attached growth biological processes for water quality control. Topics covered include activated sludge design, selector design, filamentous growth control, toxicity to biological systems, biofilm processes, and design of nutrient (phosphorus and nitrogen) removal systems. Prerequisites: CEE 450 or CEE 650 or equivalent.

CEE 755 Credits 3
Advanced Physicochemical Methods for Water Treatment
Fundamentals of chemical equilibrium, ion exchange, chemical kinetics, gas transfer and absorption theory. Applications to design of water treatment facilities, including disinfection basins, ion exchange and activated carbon columns for treatment of water for drinking, agriculture, and industry. Prerequisites: CEE 455/CEE 655 and MATH 431 or equivalent.

CEE 756 Credits 3
Advanced Waste Treatment Design
Application of optimization methods to the physical, chemical, and biological reaction engineering principles used in air, water, and solid waste treatment plant design. Review and critique of plans for existing treatment works, and incorporation of new technologies. Waste minimization. Prerequisites: CEE 450/CEE 650 or CEE 455/CEE 655 or equivalent.

CEE 757 Credits 3
Engineering Modeling of Natural Systems
Application of physical, chemical, and ecological concepts to mathematical modelling of fluid mixing, nutrient cycling and population dynamics. Applications to waste treatment and impacts in natural water systems. Prerequisites: CS 117, CEE 450/CEE 650, MATH 431

CEE 758 Credits 3
Air Quality Modeling
Data requirements for inputs to air quality models. Review of photochemical and transport processes used in models. Influence of local topography and meteorology. Review of photochemical computer
models. Use of models in evaluation of strategies for improvement of air quality. **Prerequisites:** CEE 753 or equivalent; course in numerical methods recommended.

**CEE 759**
*Mass Transfer in Environmental Systems*
Fundamentals of mass transfer by diffusion and advection. Solutions to steady-state and transient problems in several dimensions. Applications to natural and engineered systems. **Prerequisites:** CEE 367, MATH 432, and ME 400/ME 600 or ME 700, or equivalent, or consent of instructor.

**CEE 760**
*Transportation Planning*
Network representation methods; minimum-path trees; traffic assignment algorithms and their performance; trip distribution models; travel surveys and data needs; applications of statistical methods to develop methods of ownership, trip generation, vehicle occupancy, and model choice. **Prerequisites:** CEE 362 and graduate standing, or consent of instructor.

**CEE 761**
*Transportation Demand Analysis*
Problems dealing with transportation systems as they affect travel behavior; study of the demand for transportation theoretical concepts and analytical methods; urban and regional travel demand analysis, forecasting methods and behavioral demand models. **Prerequisites:** CEE 362 and graduate standing, or consent of instructor.

**CEE 762**
*Operations Research Applications in Civil Engineering*
Analysis of civil engineering systems using operations research methods and techniques. Methods covered include optimization models in deterministic systems, network models, and modeling of stochastic systems, including queuing theory. Applications drawn from various civil engineering contexts, particularly transportation systems. **Prerequisites:** MATH 466 or STAT 411, or consent of instructor.

**CEE 763**
*Advanced Traffic Engineering*
Theories of traffic flow and signal operations with application to activated, coordinated, and networked intersections using computerized models such as PASSER, NETSIM, TRANSYT, SOAP, CALSIG. Analysis of arterial/freeway operations techniques including HOV and reverse lanes, ramp metering, freeway surveillance, TSM, demand modification. Evaluation of objectives, measures of effectiveness. **Notes:** Two hours lecture, three hours laboratory. **Prerequisites:** CEE 463/CEE 663 or consent of instructor.

**CEE 764**
*Air Transportation*
Nature of civil aviation, aviation system planning, airline operations, aircraft characteristics, airline economics, structure of the airline industry, aircraft fleet planning and scheduling, aviation safety. **Prerequisites:** CEE 362 and graduate standing, or consent of instructor.

**CEE 765**
*Public Transportation Systems*
Analysis and evaluation of mass transit systems; their operation and management: demand and cost analysis; route design, schedules and fare policy. Technology of transit systems including vehicles and structures. Transit financing. Impact on land use and environment. **Prerequisites:** CEE 362 and graduate standing, or consent of instructor.

**CEE 766**
*Analysis of Hazardous Materials Transportation*
Hazardous materials transportation analysis using probabilistic risk assessment, including concept measures, models, and methodologies; routing analysis including measures and models, background and scope of hazardous materials transportation issues; mitigation including engineering applications in risk management and emergency preparedness. **Prerequisites:** CEE 362 and graduate standing, or consent of instructor.

**CEE 767**
Human Factors in Transportation Engineering
Application of human factors to transportation system planning, design, operation, and management with emphasis on transportation safety; ergonomic principles; driver, vehicle, and guideway interaction; highway safety problems; human factors analytical methods; engineering and management solutions. **Prerequisites:** CEE 362, or consent of instructor.

CEE 768 **Credits** 4
Applied Geographic Information Systems
Review of data structures and algorithms for surfaces, volumes and time, elevation models, spatial interpolation. Error modeling and data uncertainty. Visualization of spatial data. Decision making in a GIS context. Emphasis on interdisciplinary group project constructing a data base and maps involving several areas of expertise using popular GIS software. **Prerequisites:** EGG 668, STA 751, and CS 733 or CS 432.

CEE 770 **Credits** 3
Shell Structures, Bending and Membrane Theories
Analysis and design of curved thin shell structures using two methods: the approximate membrane force analysis and the exact bending moment and membrane force analysis combined. Introductions provided to the theory of elasticity and specialized solutions to partial differential equations as needed for the analysis of shell structures. **Prerequisites:** CEE 342 and graduate standing.

CEE 772 **Credits** 3
Theory of Composite Structures
Analysis and design of structures using composite materials and sandwich construction. Elasticity and failure theories of fiber composites and laminates discussed, unidirectional, multidirectional and random fiber reinforcement considered. **Prerequisites:** CEE 381 and graduate standing.

CEE 774 **Credits** 3
Introduction to Theory of Elasticity and Plasticity I
Introduction to theoretical and applied elasticity and plasticity theory-solutions to engineering problems in structural mechanics and geotechnical engineering. Response of isotropic, orthotropic and layered media to applied stresses and strains. **Prerequisites:** MATH 431 and graduate standing only.

CEE 775 **Credits** 3
Seismic Response of Structures
Application of principles of vibration theory to structures. Determination of natural frequencies and mode shapes using classical methods and energy techniques. Response of structures to harmonic, impulse, periodic and earthquake loadings. **Prerequisites:** CEE 381 and graduate standing.

CEE 776 **Credits** 3
Experimental Techniques in Structural Mechanics
Application of various experimental techniques to stress analysis problems. Comparison of experimental and analytical methods. Theory of electric resistance strain gages. Brittle lacquer coatings and their photoelasticity and its application including photoelastic coatings. Introduction to similitude. **Prerequisites:** CEE 381 and graduate standing.

CEE 778 **Credits** 3
Theory of Elastic Stability
Buckling of centrally loaded and eccentrically loaded compression members. Variational methods of determining critical loads. Stability of rigid frame members, effective lengths of compression members in trusses, lateral buckling of beams, torsional buckling. Buckling of compressed rings and curved bars. **Prerequisites:** CEE 381 and graduate standing.

CEE 779 **Credits** 3
Construction Engineering Management
Concepts of construction project management of heavy civil, and capital facility projects. Covers the project phases: pre-project planning, engineering, procurement, construction and start up. **Prerequisites:** Graduate standing in civil engineering or consent of instructor.

CEE 791 **Credits** 1 – 3
Independent Study in Civil Engineering
Independent study of a selected civil engineering topic.  
**Notes:** May be repeated to a maximum of six credits.  
**Prerequisites:** Graduate standing in civil engineering and consent of instructor.

**CEE 795**  
**Credits 1 – 6**  
**Special Topics in Civil Engineering**  
Outlet for experimental and other topics of current interest. Topics and credits to be announced. **Notes:** May have a laboratory. May be repeated for credit.  
**Prerequisites:** Graduate standing in civil engineering and consent of instructor.

**CEE 796**  
**Credits 1 – 3**  
**Design Project in Civil Engineering**  
Synthesis course to involve students in the design process from analysis and proposal to solution.  
**Notes:** May be repeated to a maximum of three credits. Not permitted for students pursuing the M.S.E. Thesis option or for those in the Ph.D. Program.  
**Prerequisites:** Graduate standing in civil engineering and consent of instructor.

**CEE 797**  
**Credits 3 – 6**  
**Thesis in Civil Engineering**  
**Notes:** May be repeated but only six credits will be applied to program.  
**Grading:** S/F grading only.  
**Prerequisites:** Graduate standing in civil engineering.

**CEE 799**  
**Credits 1 – 6**  
**Dissertation Research**  
Research analysis and writing towards completion of dissertation and subsequent defense. **Notes:** May be repeated with a maximum of 18 credits allowed to be used towards the degree.  
**Grading:** S/F grading only.  
**Prerequisites:** Graduate standing in Ph.D. program and consent of advisor.

**CEM 651**  
**Credits 4**  
**Construction Estimating**  
Principles and procedures used in estimating construction costs. Application of quantity determination, estimate pricing, specifications, subcontractor and supplier solicitation, risk assessment and risk analysis, and final bidding preparation. Computer-based estimating used for semester project. **Notes:** Credit at the 600 level normally requires additional work.

**CEM 653**  
**Construction Scheduling and Resource Optimization**  
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600 level normally requires additional work.

**CEM 654**  
**Heavy Construction Equipment & Methods**  
Characteristics, capabilities, limitations, uses and selection of heavy construction equipment. Construction methods selection. Construction equipment process planning and improvement, fleet operations, and maintenance programs. Field trips. **Notes:** Credit at the 600 level normally requires additional work.

**CEM 680**  
**Credits 3**  
**Sustainable Construction**  
**Prerequisites:** Consent of instructor.

**CEM 685**  
**Construction Law and Contracts**  
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600 level normally requires additional work.
Independent Study
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600 level normally requires additional work.

CEM 695
Special Topics in Construction Management
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600 level normally requires additional work.

CEM 700
Research Methods in Construction Management
Introduction to research process, design, measurement, sampling, analysis, and results, research information resources, and literature review. Corequisite: MBA 702 or STAT 463 or equivalent or consent of instructor.

CEM 701
Construction Seminar II
Presentations by students on research studies or projects. Presentations and discussions by local construction industry representatives on current construction engineering and management research and practice topics. Prerequisites: CEM 700

CEM 705
Construction Engineering Management
Technical project management applications for pre-project planning, design, pre-construction services, value engineering, construction, start up/commissioning and decommissioning of capital facilities. Corequisite: CEM 451/CEM 651 and CEM 451/CEM 653

CEM 740
Construction Safety and Performance Improvement
Introduction to construction safety issues, regulations and ways to improve safety on the job site. Accidents and their causes, OSHA regulations, and worker safety programs. Productivity concepts, data collection, and analysis of data and factors affecting construction productivity. Means for improving production and study of productivity improvement programs. Prerequisites: CEE 381 or ABS 341, and graduate standing.

CEM 750
Advanced Construction Scheduling

CEM 751
Construction Cost Analysis and Estimating
Advanced topics in construction estimating including value engineering, pricing strategies, and computer concepts. Development of estimating data. Computer-aided design and cost integration. Range, factor, and parametric estimating. Production factors. Prerequisites: CEM 451 or CEM 651 or consent of instructor.

CEM 755
Renewable Energy Capital Facility Projects
Overview of control and management of the cost, timing, and value of capital-investment in renewable energy projects such as solar thermal power plants, photovoltaic plants, biomass power plants, biofuel power plants, hydroelectric power plants, geothermal power plants, tidal power station, wave power station and on-shore/off-shore wind power plants. Prerequisites: Graduate standing.

CEM 775
Construction Operations and Management
EGG 650  
**Solar and Renewable Energy Utilization**

Introduction to renewable energy applications. Includes environmental motivations, historical perspectives, solar photovoltaic and thermal applications, implications in building designs, wind energy, biomass, alternative fuels, geothermal power utilization, utility considerations, and political and economic factors.

EGG 651  
**Ergonomics**

This upper-division engineering course is open to graduate students, provided it demonstrates a level of accomplishment suitable to graduate study. The Undergraduate Catalog should be consulted for a description of the course. In the Undergraduate Catalog, the course is numbered as 4XX, where the XX represents the same last two digits as the 600 course listed (for example, the description for CEE 604 appears under CEE 404).

EGG 695  
**Special Topics**

This upper-division engineering course is open to graduate students, provided it demonstrates a level of accomplishment suitable to graduate study. The Undergraduate Catalog should be consulted for a description of the course. In the Undergraduate Catalog, the course is numbered as 4XX, where the XX represents the same last two digits as the 600 course listed (for example, the description for CEE 604 appears under CEE 404).

EGG 747  
**Orthopedic Biomechanics - Lower Extremities and Spine**

Biomechanics of the lower extremities and spine; engineering properties and physiology of bone, cartilage, and tendon; analysis of gait; effects of orthopedic impairment and injury; design and surgical implantation of prosthetic joints and fracture fixation devices; engineering of tissue regeneration and replacement. **Prerequisites:** Graduate standing in engineering or kinesiology or consent of instructor.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Course Title</th>
<th>Description</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>EGG 748</td>
<td>3</td>
<td>Prosthetic Systems Engineering</td>
<td>Engineering design to prosthetic feet, ankles, knees, and prehension devices; materials and manufacturing; the biomechanics of movement using a prosthesis; residual limb morphology and surgical enhancements; socket design and tissue response; myoelectric devices; microprocessor control; psychophysical and motor control considerations; aspects of clinical science. Emphasis on R&amp;D needs.</td>
<td>Graduate standing in engineering or kinesiology or consent of instructor.</td>
</tr>
<tr>
<td>EGG 750</td>
<td>3</td>
<td>Analysis of Human Movement</td>
<td>Analysis of the kinematics and kinetics of human movement in two and three dimensions with emphasis on methods used in motion capture, including joint and segment position; acceleration, velocity, force and torque; work and power; and inverse solution methods.</td>
<td>Graduate standing in engineering or kinesiology or consent of instructor.</td>
</tr>
<tr>
<td>EGG 768</td>
<td>4</td>
<td>Applied Geographic Information Systems</td>
<td>Review of data structures and algorithms for surfaces, volumes and time, elevation models, spatial interpolation. Error modelling and data uncertainty. Visualization of spatial data. Decision making in a GIS context. Emphasis on interdisciplinary group project constructing a data base and maps involving several areas of expertise using popular GIS software.</td>
<td>EGG 668, STA 751, and CS 733 or CS 432.</td>
</tr>
<tr>
<td>EGG 769</td>
<td>3</td>
<td>Applied Modeling with Geographic Information Systems</td>
<td>Design and interfacing of civil engineering models of transportation and finite element, finite difference, and hydrologic models with geographic data base systems. Applications in general air, water, transportation, and land use management.</td>
<td>EGG 768</td>
</tr>
<tr>
<td>EGG 795</td>
<td>3</td>
<td>Special Topics</td>
<td>Directed research course under the supervision of a member of the graduate faculty culminating in a written paper. Notes: May be repeated twice with permission of instructor and advisor.</td>
<td>Graduate standing and permission of instructor.</td>
</tr>
</tbody>
</table>
School of Computer Science

Director
Minor, John T.
(1985), Associate Professor; B.A., Rice University; Ph.D., University of Texas, Austin.

Graduate Coordinator
Datta, Ajoy K.
(1988), Professor; B.S., M.S., Ph.D., Jadavpur University.

Graduate Faculty
Bein, Wolfgang
(1998), Professor; M.S., Ph.D., University of Osnabruck.

Berghel, Hal
(1999), Professor; B.A., M.A., Ph.D., University of Nebraska, Lincoln.

Gewali, Laxmi P.
(1989), Professor; B.S., Gauhati University, India; M.S., Tribhuwan University, Nepal; M.S., Ph.D., University of Texas-Dallas.

Jo, Juyeon
(2006), Associate Professor; B.S., Dongguk University, Korea; M.S., University of Connecticut; Ph.D., Case Western Reserve University.

Kim, Yoohwan
(2004), Professor; B.A., Seoul National University, Korea; M.S., Ph.D., Case Western Reserve University.

Larmore, Lawrence L.
(1994), Professor; B.S., Tulane University; Ph.D., Northwestern University; Ph.D., University of California, Irvine.

Nartker, Thomas A.
(1986), Professor Emeritus; B.S., University of Dayton; M.S., University of Tennessee; Ph.D., Texas A&M University.

Pedersen, Jan B.
(2003), Assistant Professor; B.S., M.S., University of Aarhus, Denmark; Ph.D., University of British Columbia.

Taghva, Sidkazem
(1987), Professor; B.S., Pahlavi University; M.S., University of Kansas; Ph.D., University of Iowa.

Yfantis, Evangelos A.
(1979), Professor; B.S., University of Athens; M.S., Fairleigh Dickinson University; M.S., Rutgers University; M.S., New Jersey Institute of Technology; Ph.D., University of Wyoming.

The School of Computer Science offers programs leading to the Master of Science and the Doctor of Philosophy degrees in Computer Science. Areas of school strength include both theoretical and experimental computer science, especially within such areas as information and network security, Internet forensics, real-time algorithms, information retrieval, document analysis, graphics, computational geometry, networking and distributed systems, parallel programming, artificial intelligence, and software engineering.

The distributed computing environment of the College of Engineering is housed in the Thomas T. Beam Engineering Complex. Several hundred modern computing systems are operated for purposes of instruction, experimentation, laboratory instrument control, data acquisition, and research. More than 50 of the systems are in public laboratories accessible to all Computer Science students. These laboratories contain both Windows and Unix/Linux clients and servers in a variety of modern configurations. Students can also obtain permission to access the machines of the National Supercomputer Center for Energy and the Environment (NSCEE).
Programs
- Computer Science M.S.C.S.
- Computer Science Ph.D.

Computer Science M.S.C.S.

Admission Requirements
Applicants must submit the following to the Graduate College: an application and official transcripts of all college level work with a minimum GPA of 3.00.

Two letters of recommendation concerning the student’s potential for succeeding in the graduate program, another set of official transcripts, and the results of the Graduate Record Examination current to within five years should be sent directly to the school. In addition, applicants must have completed courses and their prerequisites equivalent to our undergraduate Programming Languages CS 326), Operating Systems (CS 370), Discrete Mathematics II (MATH 351), and Statistical Methods I (STAT 411) with an average grade of B or better. The Computer Science Admission Committee may elect to admit an outstanding applicant who has not satisfied all of the background requirements on a conditional basis. The student must complete these requirements before full admission to the program is granted.

The deadline for all application materials is February 1 for the fall semester and October 1 for the spring.

Degree Requirements
The student must pass at least 30 credits of 600- and 700-level courses with grades of C or better, subject to the conditions and Graduate College policy shown below.

1. Computer Science

At least 24 credits must be in computer science. Non-CS courses must be related to the student’s research area and be approved by the school graduate committee.

2. 700-level Requirements
18 credits of computer science courses must be at the 700-level.

3. Core Requirements
- CS 656 - Automata and Formal Languages *
- CS 677 - Analysis of Algorithms *
- CS 660 - Compiler Construction *
*If equivalent courses have not been taken previously, these courses must be included.

4. Thesis or Project Option
At most six credits of:
- CS 791 - Thesis (Thesis Option)
- CS 790 - Master's Project (Project Option)
can be included.

Notes for Thesis or Project Option
The student must select either the Thesis Option or the Project Option. If the Thesis Option is selected, the student must submit a thesis conforming to the specifications of the Graduate College and pass a final oral examination covering the thesis and relevant course work. For the Project Option, the student must complete a computer science project and report approved by his advisor and pass a final oral examination over the project and relevant course work.

Notes
Courses in which the student earns a grade lower than C cannot be included in his or her program, and the student’s total grade point average (GPA) must be 3.00 or higher while in the program. A student whose GPA falls below 3.00 will be placed on academic probation. That student must have an overall GPA of at least 3.00 by the end of two subsequent semesters, otherwise the student will be separated from the graduate program. A student on probation will not be allowed to register for CS 690, CS 790, CS 791, CS 792, CS 799, or equivalent courses in another department.

Computer Science Ph.D.
Admission Requirements - Doctoral Degree Program
In addition to the requirements of the Graduate College, applicants for admission to the Ph.D. program in computer science must meet the following:

1. Students are expected to have a master’s degree in computer science before applying to the Ph.D. program. On rare occasions, an unusually capable student may be admitted to work directly for the Ph.D. degree without having a master’s degree.
2. A GPA of 3.30 (on a 4.00 scale) or higher in postbaccalaureate course work is required for admission.
3. At least three letters of recommendation (preferably from academic sources) attesting to the applicant’s professional competence and academic potential are required.
4. A personal statement of purpose, which should be as specific as possible and should include the applicant’s objectives and area(s) of interest, is required.
5. Satisfactory scores on both the general test of the Graduate Record Examination (GRE) and from the Computer Science subject test (C29) are required. Official score reports from the last five years are acceptable.

Degree Requirements
The Ph.D. degree is awarded to a candidate who has demonstrated breadth of knowledge in computer science in general and has displayed depth of knowledge in the area of specialty as well as the ability to make original contributions to the body of knowledge in this field.

To successfully complete the Ph.D. program, a student must fulfill all the Graduate College degree requirements and the following requirements:

1. Complete 48 credits of course work.
2. Satisfactorily pass a written comprehensive examination.
3. Satisfactorily pass an oral qualifying examination.
4. Prepare a dissertation that must be acceptable to his or her Ph.D. committee.
5. Satisfactorily pass an oral defense of the dissertation.
6. Maintain a satisfactory rate of progress.

Course Requirements
A student entering the Ph.D. program with a master’s degree in computer science is required to take at least 48 credits of course work subject to the following conditions:

1. At least 42 credits must be in computer science.
2. At least 18 credits of computer science courses must be at the 700 level (excluding CS 799 credits).
3. Must include exactly three credits of: CS 792 - Research Seminar.
4. Must include a maximum of 18 credits of: CS 799 - Dissertation Research.

A student entering the Ph.D. program with a bachelor’s degree is required to take at least 24 extra credits of 600- and 700-level computer science courses in addition to the above 48 credits (at least half of them must be at the 700 level).

The Comprehensive Examination.
The written comprehensive examination will be given twice a year. The comprehensives will assess the student’s breadth of knowledge through three examinations covering the six Core Areas listed below and another examination in two other areas of his or her choice.

Core Areas
1. Automata and formal languages; Algorithms and data structures
2. Programming languages; Compiler construction
3. Computer architecture; Operating systems

Application Areas
1. Artificial intelligence
2. Computer graphics and image processing
3. Computer simulation and networks
4. Database systems
5. Software engineering and reliability
6. Document analysis
7. Networks and distributed computing
8. Geometric applications

The level of the examination is that of 600-level and 700-level courses in each area. A syllabus will be published well in advance of the exams listing the topics to be covered in each exam. Students are expected to take the comprehensive examination within two years of entering the Ph.D. program. All Ph.D. students are urged to take this examination as early as possible. Preference is given in the allocation of student financial support to those who have passed the comprehensive examination. The comprehensive examination may be attempted at most twice. Students who do not pass the comprehensive examination the first time must retake the examination at the next scheduled offering. Failure to pass the comprehensive examination after two attempts will normally lead to dismissal from the Ph.D. program. After passing the comprehensive examination, a research topic of mutual interest to the student and his/her proposed committee is selected. At this point, the student formally begins his/her research study.

The Qualifying Examination
The qualifying examination is an oral examination designed to test the depth of the student’s knowledge in his or her area of research specialization. It must be taken before either (a) two years after passing the comprehensive examination or (b) four years after entering the Ph.D. program. It generally focuses on his/her dissertation proposal. The main purpose of this exam is to evaluate the technical merits and feasibility of the student’s proposal for his/her Ph.D. dissertation.

The student’s Ph.D. committee must conduct the examination. This committee consists of five faculty members of whom one must be from outside the school of computer science. The student’s advisor is the chairperson of this committee. The faculty member from outside the school is selected by the Graduate College from three faculty members who are suggested by the student in consultation with his or her advisor. The student must prepare a dissertation proposal before taking this examination. The student’s advisor should have already approved this proposal.

This proposal must be given to the Ph.D. committee members at least two weeks before the date of the qualifying exam. The proposal must contain a discussion of the background literature on the problem area, description of the specific topic of research proposal approach, feasibility arguments, the objective of the research project, and a list of references. The student begins the exam with a presentation of the dissertation proposal. The remaining time is used for discussion and asking questions to determine if the student has sufficient depth of knowledge to carry out the proposed research. The examination cannot be taken more than twice. After successful completion of the qualifying examination, the student is advanced to candidacy for the doctoral degree.

Preparation of Dissertation
The candidate must prepare a dissertation on his or her research. The doctoral dissertation should represent a significant original research contribution to the field of computer science and be publishable in a recognized refereed journal.

Oral Defense
After completion of the dissertation, the candidate must pass a final oral defense of his/her dissertation. The candidate must make the final changes, if any, in the dissertation within three months from the date of the oral defense. A candidate can defend the dissertation no more than twice. Each member of the committee must approve the final dissertation.

Satisfactory Progress
To maintain satisfactory progress in the Ph.D. program a student must:
1. Pass the comprehensive examination within 2.50 years of entering the Ph.D. program.
2. Maintain a minimum grade point average required by the College of Engineering.
3. Pass the qualifying examination within four years of entering the Ph.D. program.
4. Maintain satisfactory progress towards research.
5. Students who enter the Ph.D. program with a master’s degree must complete all requirements for the Ph.D. degree within six years. Those who enter the Ph.D. program with a bachelor’s degree must complete all requirements for the Ph.D. degree within eight years. If these requirements are not met, the department may place the student on academic probation or drop him/her from the Ph.D. program.

CS 617
Introduction to Computer Simulation
This course may also be used for graduate credit. For a description of this 600-level course, please consult the current Undergraduate Catalog, where it is listed as a 400-level class.

CS 620
Credits 3
Human-Computer Interaction
Overview of human-computer interaction principles, guidelines, methods, and tools. User research, low-fidelity prototyping, participatory design, usability evaluation, visual design, usability principles, and affordances. Graphical user interface implementation, including design patterns, event handling, widget toolkits, languages, and development environments.
Prerequisites: Consent of Instructor

CS 641
Advanced Internet Programming
This course may also be used for graduate credit. For a description of this 600-level course, please consult the current Undergraduate Catalog, where it is listed as a 400-level class.

CS 641L
Advanced Internet Programming Lab
This course may also be used for graduate credit. For a description of this 600-level course, please consult the current Undergraduate Catalog, where it is listed as a 400-level class.

CS 645
Internet Security
This course may also be used for graduate credit. For a description of this 600-level course, please consult the current Undergraduate Catalog, where it is listed as a 400-level class.

CS 648
Computer Security
This course may also be used for graduate credit. For a description of this 600-level course, please consult the current Undergraduate Catalog, where it is listed as a 400-level class.

CS 651
Multimedia Systems Design
This course may also be used for graduate credit. For a description of this 600-level course, please consult the current Undergraduate Catalog, where it is listed as a 400-level class.

CS 651L
Multimedia Systems Design Lab
This course may also be used for graduate credit. For a description of this 600-level course, please consult the current Undergraduate Catalog, where it is listed as a 400-level class.

CS 656
Automata and Formal Languages
This course may also be used for graduate credit. For a description of this 600-level course, please consult the current Undergraduate Catalog, where it is listed as a 400-level class.

CS 657
Database Management Systems
This course may also be used for graduate credit. For a description of this 600-level course, please consult the current Undergraduate Catalog, where it is listed as a 400-level class.

CS 660
Compiler Construction
This course may also be used for graduate credit. For a description of this 600-level course, please consult the current Undergraduate Catalog, where it is listed as a 400-level class.

CS 663
Computer Architecture
This course may also be used for graduate credit. For a description of this 600-level course, please consult the current Undergraduate Catalog, where it is listed as a 400-level class.

**CS 665**  
**Computer Networks I**  
This course may also be used for graduate credit. For a description of this 600-level course, please consult the current Undergraduate Catalog, where it is listed as a 400-level class.

**CS 666**  
**Computer Networks II**  
This course may also be used for graduate credit. For a description of this 600-level course, please consult the current Undergraduate Catalog, where it is listed as a 400-level class.

**CS 669**  
**Introduction to Digital Image Processing**  
This course may also be used for graduate credit. For a description of this 600-level course, please consult the current Undergraduate Catalog, where it is listed as a 400-level class.

**CS 670**  
**Networks and Distributed Systems**  
This course may also be used for graduate credit. For a description of this 600-level course, please consult the current Undergraduate Catalog, where it is listed as a 400-level class.

**CS 671**  
**Program Derivation**  
This course may also be used for graduate credit. For a description of this 600-level course, please consult the current Undergraduate Catalog, where it is listed as a 400-level class.

**CS 672**  
**Software Product Design and Development I**  
This course may also be used for graduate credit. For a description of this 600-level course, please consult the current Undergraduate Catalog, where it is listed as a 400-level class.

**CS 673**  
**Software Product Design II**  
This course may also be used for graduate credit. For a description of this 600-level course, please consult the current Undergraduate Catalog, where it is listed as a 400-level class.

**CS 674**  
**Decision Environments for Software Product Development**  
This course may also be used for graduate credit. For a description of this 600-level course, please consult the current Undergraduate Catalog, where it is listed as a 400-level class.

**CS 677**  
**Analysis of Algorithms**  
This course may also be used for graduate credit. For a description of this 600-level course, please consult the current Undergraduate Catalog, where it is listed as a 400-level class.

**CS 680**  
**Computer Graphics**  
This course may also be used for graduate credit. For a description of this 600-level course, please consult the current Undergraduate Catalog, where it is listed as a 400-level class.

**CS 682**  
**Artificial Intelligence**  
This course may also be used for graduate credit. For a description of this 600-level course, please consult the current Undergraduate Catalog, where it is listed as a 400-level class.

**CS 689**  
**Advanced Computer Science Topics**  
This course may also be used for graduate credit. For a description of this 600-level course, please consult the current Undergraduate Catalog, where it is listed as a 400-level class.

**CS 690**  
**Independent Study**  
This course may also be used for graduate credit. For a description of this 600-level course, please consult
the current Undergraduate Catalog, where it is listed as a 400-level class.

CS 715 Credits 3
Advanced Analysis of Algorithms
Analysis of the complexity and correctness of asymptotically efficient algorithms, including set partitioning, matrix multiplication, integer multiplication and pattern matching algorithms. The theory of NP-completeness; Cook's theorem and polynomial transformations. Basic NP-complete problems, such as the three-satisfactory, three dimensional matching and Hamiltonian circuit problems. PSPACE-completeness results, such as quantified Boolean formulas. Prerequisites: CS 656 and CS 677

CS 717 Credits 3
Advanced Computer Simulation
Advanced discrete simulation modeling using SIMSCRIPT 11.5 and SLAM. Advanced continuous simulation using ACSL. Modeling concepts, measuring random phenomena. Passive objects, application of simulation to operating systems and software design in general. Digital- analog solution of linear differential equations, industrial dynamics. Feedback systems. Prerequisites: CS 617

CS 718 Credits 3
Theory of Computation
Computability of functions and sets in terms of Turing machines and other computational models. Universal Turing machines and examples of unsolvable problems. Introduction to other computational models, such as the lambda-calculus, Post systems, Markov algorithms and recursive function theory. The Church-Turing thesis and proofs of equivalence between the models. Prerequisites: CS 656

CS 719 Credits 3
Advanced Automata and Formal Languages
Extensive study of context-sensitive, recursive and recursively enumerable languages, including ambiguity and closure properties: decidable and undecidable properties of the different language classes: the halting problem and Post's correspondence problem; properties of the deterministic context-free languages; LR(k) and LL(k) grammars. Prerequisites: CS 656

CS 733 Credits 3
Geographic Data Base Systems
Spatial data types and operators: point queries, range queries, translation, rotation, and scaling. Data structures for object representation: arc tree, quadtrees. Commercial data bases vs. spatial data bases: relational, hierarchical, network. Notes: (May not be used to satisfy degree requirements in Computer Science.) Prerequisites: CS 135 or CS 117 or equivalent and STAT 611

CS 740 Credits 3
Statistical Pattern Recognition
Concepts and formal theoretical structures necessary for design and implementation of a pattern recognition system. Topics include: parametric and non-parametric methods, linear and non-linear classifiers and clustering algorithms. Prerequisites: STA 667, MATH 253 or 265, and CS 302

CS 741 Credits 3
Structural Pattern Recognition
Survey of advanced pattern recognition techniques. Topics include: graph matching methods, syntactic approaches, neural nets, and context-dependent methods. Prerequisites: CS 656 and CS 677

CS 742 Credits 3
Document Image Understanding
Survey of document understanding methods and related topics that include: data compression, document exchange standards, layout analysis methods, logical analysis methods, OCR, error correction, and document routing. Prerequisites: CS 740 and CS 669

CS 747 Credits 3
Cryptography and Information Theory
Cryptography, cryptographic systems, encryption algorithms, cryptographic techniques, access control, lattice model of information flow, flow control mechanisms, inference control mechanisms, mechanisms restricting noise, mechanisms restricting
statistics, statistical database models. **Prerequisites:** CS 370, STAT 411

**CS 750**
**Credits 3**
**Computational Algorithms in VLSI**
Application and inherent limitations of using VLSI to implement computational algorithms, design and analysis of algorithms for design of VLSI circuits, introduction to VLSI implementation of computational algorithms represented by logic circuits, lower bounds on area and time, systolic arrays and their applications, VLSI layout algorithms, VLSI test generation and simulation. **Prerequisites:** CS 677

**CS 754**
**Credits 3**
**Discrete Optimization**
Network optimization problems, use of advanced data structures. Topics may vary and include maximum-flow algorithms, multiterminal maximum flows, minimum cost flows and circulations, matching algorithms, approximation algorithms, and applications. Hamiltonian circuits in dense graphs, disjoint paths, the postman problem, introduction to combinatorial geometry, and linear programming. **Prerequisites:** CS 677

**CS 756**
**Credits 3**
**Formal Semantics**
Coverage of formal methods for defining the semantics of programming languages, including the operational, denotation and axiomatic approaches. Proof techniques for verifying properties of programs. Consistent and complementary definitions for a Pascal-like language discussed. **Prerequisites:** CS 326 and CS 656

**CS 758**
**Credits 3**
**Computational Geometry**
Geometric searching, point location, range searching, convex hull, Graham's scan, gift wrapping, dynamic convex hull, proximity closest pair, Voronoi diagram, triangulation. Intersection, visibility shortest paths, geometry of rectangles. **Prerequisites:** CS 677

**Advanced study of various current computer architectures. Examples taken from specialized architectures that support modern general-purpose programming, operating systems, artificial intelligence and data bases. SIMD and MIMD parallel architectures. **Prerequisites:** CS 326 and CS 663

**CS 767**
**Credits 3**
**Advanced Computer Graphics**
Hidden line elimination algorithms and implementation. Perfect interpolators, cubic and bicubic splines, Kriging, Hermite surfaces, nonperfect interpolators, Bezier curves and surfaces, B-splines, ray tracing algorithms, shading, lightness, motion, moving pictures, two- and three-dimensional fractals. Special topics. **Prerequisites:** CS 680

**CS 768**
**Credits 3**
**Surface Estimation for Computer-Aided Geometric Design**
Affine maps, function spaces, the DeCasteljajian algorithm, Bernstein polynomials, Bezier surfaces, nonparametric curves, Lagrange polynomials, C continuity, B-spline basis, Frenet frame, G continuity, gamma splines, beta splines, geometric continuity, tensor product interpolants, volume deformations, curvatures. **Prerequisites:** CS 767

**CS 769**
**Credits 3**
**Advanced Data Base Management**
Continuation of CS 632, including normalization of relational data bases using functional and multivalued dependencies. Query processing, query interpretation, query optimization, and methods for implementing and optimizing logic queries. Knowledge data bases, distributed data bases and object-oriented data bases. **Prerequisites:** CS 657

**CS 770**
**Credits 3**
**Advanced Operating Systems**
Study of the design principles, organization, and performance analysis of large-scale computer operating systems. Particular subjects emphasized include coordination of tasks, solutions of deadlock problems, theories of segmentation and paging, and performance prediction. **Prerequisites:** CS 370
**CS 771**  
**Credits 3**  
**Concurrent Computation**  
Study of concurrent programming methods and applications; event spaces; models of concurrency, such as Petri nets, CCS and CSP. Synchronization, data sharing and communication. Concurrency constructs in various programming languages. Scheduling and implementation techniques. Applications of concurrency in operating system design, fault-tolerance, and reliability. **Prerequisites:** CS 326 and CS 370.

**CS 772**  
**Credits 3**  
**Software Architecture**  
Survey of advanced techniques for specifying and designing large software systems. System verification. Reliability and project management. **Prerequisites:** CS 370, CS 672, and CS 660, or consent of instructor.

**CS 777**  
**Credits 3**  
**Parallel Algorithms**  
Methods for creating and analyzing parallel algorithms. Parallel programming languages and programming models of shared-memory and distributed architectures. Measuring complexity of parallel algorithms. NC-class versus P-class algorithms. **Prerequisites:** CS 677

**CS 778**  
**Credits 3**  
**Advanced Translation**  
Formal semantics, automatic compiler generation, attribute grammars. Language issues as they relate to compiler generation. **Prerequisites:** CS 660

**CS 779**  
**Credits 3**  
**Supercompliers for Parallel and Vector Computers**  
Dependence analysis, Diophantine equations, the GCD test, the Banerjee test, do-loop normalization, concurrency in loops, vector code generation, control dependence and vectorization, parallel code generation for doall-loops, parallel code generation for doacross-loops, shared memory parallelization, parallelization for distributed memory architectures.

**CS 780**  
**Credits 3**  
**Distributed Computing and Algorithms**  
Methods and algorithms of distributed computing. Topics may include architecture and design goals, formal approaches to distributed computing problems, networks and protocols, models of distributed computing, synchronization and communication, synchronous and asynchronous systems, fault-tolerance and reliability, self-stabilization, distributed algorithms and applications. **Prerequisites:** CS 370, CS 677

**CS 781**  
**Credits 3**  
**Automated Deduction**  
Use of computers for forming deductions and proving theorems in symbolic logic covered. Topics include resolution, unification, proof strategies, and equality. Also examines areas of application: problem solving, question answering, program verification, automatic programming and logic programming (Prolog). **Prerequisites:** CS 682

**CS 782**  
**Credits 3**  
**Expert System Construction**  
Design, organization, and construction of expert systems. Includes general concepts, characteristics, elements, advantages, and examples of expert systems. Also rule-based knowledge representations, inference techniques, implementation tools and shells, and advanced topics. **Prerequisites:** CS 682

**CS 783**  
**Credits 3**  
**Genetic Algorithms and Neural Networks**  
A study of the utility of adaptive methods and their limitations across optimization problems spanning areas of engineering. Topics include genetic algorithms and genetic programming, simulated annealing, tabu search, neural networks, artificial life. Use of software tools for implementations.

**CS 785**  
**Credits 3**  
**Computational Linguistics**  
Introduction to linguistics and computational linguistics, for natural language. Phonology,
morphology, syntax, semantics, and lexicology. Text analysis and processing; construction of lexicons, and indexes and concordances. Introduction to text retrieval, translation, speech understanding and generation. Prerequisites: CS 656

CS 786 Credits 3
Advanced Computational Linguistics
Advanced study of computational linguistics. Emphasis on cognitive methods in natural language understanding and generation. Pragmatics and discourse. Prerequisites: CS 785

CS 788 Credits 3
Computational Environmetrics

CS 789 Credits 3
Topics in Advanced Computer Science
Graduate-level course in some field of computer science, at advanced level, depending upon the current interest of the staff and the students. Notes: May be repeated with a different subject matter to a maximum of nine credits. Prerequisites: Consent of instructor.

CS 790 Credits 1 – 3
Master's Project
Notes: May be repeated, but only three credits will be applied to the student's program. Grading: S/F grading only. Prerequisites: Consent of instructor.

CS 791 Credits 3 – 6
Thesis
Notes: May be repeated, but only six credits will be applied to the student's program. Grading: S/F grading only. Prerequisites: Consent of instructor.

CS 792 Credits 1
Research Seminar
Oral presentation of assigned articles. Notes: May be repeated to a maximum of four credits. Prerequisites: Consent of instructor.

CS 799 Credits 1 – 6
Dissertation Research
Research analysis and writing towards completion of dissertation and subsequent defense. Notes: May be repeated but no more than 18 credits will be allowed in the degree. Grading: S/F grading only. Prerequisites: Graduate standing in Ph.D. program and consent of advisor.
Electrical & Computer Engineering

Chair
Selvaraj, Henry
(1994), Professor; M.S., Ph.D., Warsaw University of Technology.

Graduate Coordinator
Jiang, Yingtao
(2001), Associate Professor; B.E., Chongqing University; M.S.E.C.E., Concordia University, Montreal; Ph.D., University of Texas at Dallas.

Graduate Faculty
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(2003), Professor; B.S.E.E., Indian Institute of Technology, Kharagpur; M.S.E.E., Southern Illinois University, Ph.D., Purdue University.

Latifi, Shahram
(1989), Professor; B.S., M.S., Teheran University; M.S., Ph.D., Louisiana State University.

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(2001), Assistant Professor; B.S., University of California, Berkeley; Ph.D., University of California, San Diego

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(2001), Associate Professor; B.S.E.E., Anna University India; M.S.E.E., Ph.D., Monash University, Australia.

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(2001), Associate Professor; M.S.C.E., Ph.D., State Engineering University of Armenia.

Saberinia, Ebrahim
(2004), Assistant Professor; B.S.E.E., M.S.E.E., Sharif University of Technology; Ph.D., University of Minnesota.

Schill, Robert A.
(1993), Professor; B.S.E.E., Milwaukee School of Engineering; M.S.E.E., Ph.D., University of Wisconsin-Madison.

Singh, Sahjendra N.
(1986), Professor; B.S., Patna University; M.E., Indian Institute of Science; Ph.D., The Johns Hopkins University.

Stubberud, Peter
(1991), Associate Professor; B.S., M.S., Ph.D., University of California, Los Angeles.

Sun, Ke-Xun
(2012), Professor; B.S., Peking (Beijing) University; M.S., Nagoya University; Ph.D., Massachusetts Institute of Technology.

Venkat, Rama
(1989), Professor; B.Tech., Indian Institute of Technology; M.S., Ph.D., Purdue University.

Yang, Mei
(2004), Assistant Professor; B.E.C.E., M.E.C.E., University of Electronic Science and Technology of China; Ph.D., University of Texas at Dallas.

Professors Emeriti
Brogan, William L.
(1990-1998), Emeritus Professor; B.S.M.E., State University of Iowa; M.S., Ph.D., University of California, Los Angeles.

Martinez, Ramon
Electrical engineering is the application of scientific and mathematical principles to the design, manufacture, and control of structures, machines, processes, and systems. In the past, the work of electrical engineers has had a direct and vital impact on people’s lives. For example, electrical engineers have been responsible for the creation of electric power, modern electronics, computers, electronic communication systems, modern flight controllers, automated manufacturing and medical diagnostic tools. An electrical engineering education continues to provide opportunities for solving problems of great social significance and for increasing people’s quality of life. The Department of Electrical and Computer Engineering at UNLV has excellent facilities for graduate education and research in electrical engineering. In addition, our faculty are experienced and knowledgeable in many of the electrical engineering disciplines, including communications, computer engineering, control system theory, electromagnetics and optics, electronics, power systems, signal processing, nano technologies and solid state devices. At UNLV, students have the opportunity for personal interaction so that programs and research projects can be tailored to student interests.

The Department of Electrical and Computer Engineering offers a wide array of high-technology computing and research facilities. Through the department, as well as the college, graduate students have access to a large network of personal computers and scientific workstations. These include a number of high-performance Sparc stations, Silicon Graphics workstations, Windows-based personal computers, and Apple Macintosh computers. Available software includes layout tools, logic synthesis tools, processing and demo modeling tools, signal and image processing tools, and microwave design tools. Further, graduate students have access to Cray YMP 2/216 and Convex C220 supercomputers. The department’s high technology research equipment includes a C-V profiler, Hall mobility measurement system, diffusion furnace, vacuum evaporative system, pulsed power systems, precision power analyzer, state-of-the-art test and measurement equipment including spectrum and network analyzers and digital scanners.

Programs
- Electrical Engineering M.S.E.E.
- Electrical Engineering Ph.D.

Dual M.S. in Electrical Engineering & Mathematical Sciences
The dual M.S. in Electrical Engineering and Mathematical Sciences program is designed for those who want to pursue the Ph.D. degree in Electrical Engineering or a career in Electrical Engineering with emphasis in applied Mathematics. The program prepares graduate students with complementing educational components covering electrical engineering and mathematics, which is the basis of all engineering. The students graduating from this program will be well-prepared with a well-rounded background.

Admission Requirements
Admissions to the Dual M.S. program need to satisfy the admission requirements for both M.S.E.E. and M. S. Mathematical Sciences.

Electrical Engineering M.S.E.E.
Applications are considered on an individual basis. Candidates can be admitted on a regular or provisional status. Qualified applicants who are not admitted on either status can take graduate courses as a non-degree student but not completing all of the
M.S.E.E. degree requirements. Only 15 credits taken as a UNLV non degree student will count for an M.S.E.E. degree.

To be considered for admission to the M.S.E.E. program, an applicant must:

1. Have a Bachelor of Science (B.S.) degree in electrical engineering, computer engineering or a closely related discipline. (Applicants who possess a bachelor’s degree in a closely related discipline, such as physics or mathematics, may be admitted on provisional status. These students will be required to complete certain undergraduate courses before they can attain regular status. The graduate committee determines these courses on an individual basis. Graduates with degrees in engineering technology ordinarily have an inadequate background to be admitted to the graduate program.)

2. Have a minimum grade point average (GPA) of 3.00 (A=4.00) for their bachelor’s degree. (Applicants who have an overall GPA below 3.00 must submit Graduate Record Examination (GRE) scores to the department. These applicants may be admitted subject to the discretion of the Electrical and Computer Engineering Graduate Committee. Applicants who want to be considered for an assistantship, or who feel that their GRE scores will enhance their chances for admission, are strongly encouraged to submit GRE scores.)

3. Submit GRE scores if the applicant did not obtain his bachelor’s degree from an ABET accredited institution. (An applicant possessing a bachelor’s degree from an ABET accredited institution is not required to submit GRE scores.)

4. Submit a completed application form and official transcripts of all college-level work to the Graduate College. In addition, submit a one page written statement of purpose indicating the applicant’s research interests, motivations and objectives, three dated letters of recommendation concerning the applicant’s potential for succeeding in the

Degree Requirements
All M.S.E.E. candidates must maintain an overall minimum grade point average (GPA) of 3.00 (B) and a minimum GPA of 3.00 (B) each semester. Students who do not maintain an overall GPA of 3.00 (B) and a GPA of 3.00 (B) each semester will either be placed on probation or expelled from the program. The Electrical and Computer Engineering Graduate Committee and/or the Graduate College will determine the terms of the student’s probation in accordance with the rules of the Graduate College.

All regular status admitted graduate students must file an approved program before the completion of their second semester. The student’s advisor and the graduate coordinator must approve this program. All regular and provisional status graduate students must show satisfactory progress towards completion of their degree by completing at least six credits of their approved program per calendar year. If progress towards their degree program is not satisfactory, students will either be placed on probation or expelled from the program.

Specific Requirements for the M.S.E.E. degree are:

1. Satisfy the M.S.E.E. degree program admission requirements and be admitted to
the M.S.E.E. program with a regular full graduate standing status.

2. Complete a minimum of 30 to 33 credits of graduate level courses with an overall minimum GPA of 3.00 (B) and a minimum grade of 2.70 (B-) in each class applied towards the 30 to 33 credits. Grades below B- are not counted towards the M.S.E.E. degree and must be repeated or replaced. Continued enrollment of a student who earns more than one grade below B- is contingent upon the approval of the committee.

   a. Thesis Option: A total of 30 credits are required for the Thesis Option. Of the 30 required credits, a minimum of 18 credits must be in electrical engineering courses, a minimum of 15 credits must be in 700-level electrical engineering courses excluding ECG 796 and ECG 797, and no more than 3 credits may be from ECG 791 Graduate Independent Study. Students opting for the Thesis Option must complete at least six credits of ECG 797 Electrical Engineering Thesis. Although ECG 797 Electrical Engineering Thesis can be taken repeatedly, no more than 6 credits can be applied towards the M.S.E.E. degree.

   b. Course Only Option: A total of 33 credits are required for the Course Only Option. Of the 33 required credits, a minimum of 21 credits must be in electrical engineering courses, a minimum of 18 credits must be in 700-level electrical engineering courses and no more than 3 credits may be from EEG 791 Graduate Independent Study. The Course Only Option is a terminal degree. Electrical Engineering Graduate Program Document Revised: Feb. 28, 2007.

3. Successfully complete a minimum of three credits in at least three of the following areas:
   a. Computer Engineering
   b. Communications
   c. Control Systems
   d. Electromagnetics and Optics
   e. Electronics
   f. Power Systems
   g. Signal Processing
   h. Solid State Electronics, Materials and Devices

4. Thesis Option Only. Complete a thesis. Before beginning a thesis, students must have their thesis topic approved by their advisor, and the necessary paper work must be filed with the Graduate College. The student must complete a thesis containing original research and defend it before his/her advisory committee at the Thesis Exam. The student can receive no more than 6 credits of ECG 797 Electrical Engineering Thesis for the work associated with the thesis. Students who plan to continue their studies beyond the M.S.E.E. degree program are strongly encouraged to select this option.

Thesis Exam
Prior to the student’s defense of the thesis before his/her advisory committee, the student must submit a complete copy of the thesis to each member of his/her advisory committee. This submission must occur at least two weeks prior to the date of the oral defense.

The student must also notify each member of his/her advisory committee of the date, time and location of the oral defense of the thesis or project at least two weeks in advance.

Time Limits
The Department of Electrical and Computer Engineering requires that the M.S.E.E. degree be finished within a period of six years. Courses taken more than six years prior to Dual Degree Track with MS MAT.
Dual Degree Track with MS MAT

All M.S.E.E. candidates must maintain an overall minimum grade point average (GPA) of 3.00 (B) and a minimum GPA of 3.00 (B) each semester. Students who do not maintain an overall GPA of 3.00 (B) and a GPA of 3.00 (B) each semester will either be placed on probation or expelled from the program. The Electrical and Computer Engineering Graduate Committee and/or the Graduate College will determine the terms of the student’s probation in accordance with the rules of the Graduate College.

All regular status admitted graduate students must file an approved program before the completion of their second semester. The student’s advisor and the graduate coordinator must approve this program. All regular and provisional status graduate students must show satisfactory progress towards completion of their degree by completing at least six credits of their approved program per calendar year. If progress towards their degree program is not satisfactory, students will either be placed on probation or expelled from the program.

Specific requirements for the M.S.E.E. degree are:

1. Satisfy the M.S.E.E. degree program admission requirements and be admitted to the M.S.E.E. program with a regular full graduate standing status.
2. Complete a minimum of 30 to 33 credits of graduate level courses with an overall minimum GPA of 3.00 (B) and a minimum GPA of 2.70 (B-) in each class applied towards the 30 to 33 credits. Grades below B- are not counted towards the M.S.E.E. degree and must be repeated or replaced. Continued enrollment of a student who earns more than one grade below B- is contingent upon the approval of the committee.
3. Two of the courses included in the degree program can be double counted between MSEE and MS MAT degrees.
   a. Thesis Option: A total of 30 credits are required for the Thesis Option. Of the 30 required credits, a minimum of 18 credits must be in electrical engineering courses, a minimum of 15 credits must be in 700-level electrical engineering courses excluding ECG 796 and ECG 797, and no more than 3 credits may be from ECG 791 Graduate Independent Study. Students opting for the Thesis Option must complete at least six credits of ECG 797 Electrical Engineering Thesis. Although ECG 797 Electrical Engineering Thesis can be taken repeatedly, no more than 6 credits can be applied towards the M.S.E.E. degree.
   b. Course Only Option: A total of 33 credits are required for the Course Only Option. Of the 33 required credits, a minimum of 21 credits must be in electrical engineering courses, a minimum of 18 credits must be in 700-level electrical engineering courses and no more than 3 credits may be from EEG 791 Graduate Independent Study. The Course Only Option is a terminal degree. Electrical Engineering Graduate Program Document Revised: Feb. 28, 2007
4. Successfully complete a minimum of three credits in at least three of the following areas:
   a. Computer Engineering
   b. Communications
   c. Control Systems
   d. Electromagnetics and Optics
   e. Electronics
   f. Power Systems
   g. Signal Processing
   h. Solid State Electronics, Materials and Devices
5. Thesis Option Only. Complete a thesis. Before beginning a thesis, students must have their thesis topic approved by their advisor, and the necessary paper work must
be filed with the Graduate College. The student must complete a thesis containing original research and defend it before his/her advisory committee at the Thesis Exam. The student can receive no more than 6 credits of ECG 797 Electrical Engineering Thesis for the work associated with the thesis. Students who plan to continue their studies beyond the M.S.E.E. degree program are strongly encouraged to select this option.

a. **Thesis Exam:** Prior to the student’s defense of the thesis before his/her advisory committee, the student must submit a complete copy of the thesis to each member of his/her advisory committee. This submission must occur at least two weeks prior to the date of the oral defense. The student must also notify each member of his/her advisory committee of the date, time and location of the oral defense of the thesis or project at least two weeks in advance.

b. **Time Limits:** The Department of Electrical and Computer Engineering requires that the M.S.E.E. degree be finished within a period of six years. Courses taken more than six years prior to graduation may not be applied toward the M.S.E.E. degree. Graduation may not be applied toward the M.S.E.E. degree.

**Fast Track M.S. Program**

The Fast Track M.S. program allows select UNLV undergraduates to pursue the M.S. in Engineering degree at UNLV. The program provides an opportunity for those undergraduates who have taken graduate-level electrical and computer engineering courses toward their undergraduate electrical/computer engineering degrees, to complete the M.S. in Engineering with a total of 24 as opposed to the 30 credits required for the conventional M.S. in Engineering (thesis option). Students admitted to the Fast Track program are required to write a thesis.

**Admission Requirements**

To be considered for admission to the Fast Track M.S.E.E. Program Option, an applicant must:

1. Have a minimum overall grade point average (GPA) of 3.25 (A = 4.00) for their B.S. degree in electrical engineering, computer engineering or the closely related field.
2. Have completed at least 6 credits of graduate level courses which were applied towards the student’s B.S. degree. The graduate level coursework must have been completing with a minimum overall grade point average (GPA) of 3.0 (A = 4.00).

**Degree Requirements**

1. Students who have been admitted into the Fast Track M.S.E.E. Program Option must complete a minimum of 24 credits.
2. Of the 24 credits required for the M.S.E.E. Program Option and the 6 credits of graduate level courses applied toward the B.S. degree:
   a. a minimum of 18 credits must be in electrical engineering courses,
   b. a minimum of 15 credits must be in 700-level electrical engineering courses excluding ECG 796 and ECG 797,
   c. and no more than 3 credits may be from ECG 791 - Independent Study in Electrical Engineering.
3. Students must complete at least six credits of ECG 797 - Electrical Engineering Thesis. Although ECG 797 Electrical Engineering Thesis can be taken repeatedly, no more than 6 credits can be applied towards the 24-27 credits required for the M.S.E.E. degree. Students must also complete a thesis and pass a thesis exam.

**Time Limits**
The Department of Electrical and Computer Engineering requires that the M.S.E.E. degree be finished within a period of six years. Courses taken more than six years prior to graduation may not be applied toward the M.S.E.E. degree.

No Risk Ph.D. Pre-Qualifying Exams

A full graduate standing master’s degree candidate who is interested in pursuing a doctoral degree may be allowed to take the Ph.D. qualifying exam without penalty during his/her period as an M.S. student. The exam may be taken as many times as desired but no more than once a semester. Those areas that the student passes will count towards his/her qualifying exam requirement upon entering the Ph.D. program.

The candidate must complete an M.S. degree in the Electrical and Computer Engineering department. Once the student receives an M.S. degree in Electrical Engineering, the student must abide by the requirements outlined in the Ph.D. program. This option is not available to non-degree students.

Electrical Engineering

M.S.E.E.

Applications are considered on an individual basis. Candidates can be admitted on a regular or provisional status. Qualified applicants who are not admitted on either status can take graduate courses as a non degree student but not completing all of the M.S.E.E. degree requirements. Only 15 credits taken as a UNLV non degree student will count for an M.S.E.E. degree.

To be considered for admission to the M.S.E. program, an applicant must:

1. Have a Bachelor of Science (B.S.) degree in electrical engineering, computer engineering or a closely related discipline. (Applicants who possess a bachelor’s degree in a closely related discipline, such as physics or mathematics, may be admitted on provisional status. These students will be required to complete certain undergraduate courses before they can attain regular status. The graduate committee determines these courses on an individual basis. Graduates with degrees in engineering technology ordinarily have an inadequate background to be admitted to the graduate program.)

2. Have a minimum grade point average (GPA) of 3.00 (A=4.00) for their bachelor’s degree. (Applicants who have an overall GPA below 3.00 must submit Graduate Record Examination (GRE) scores to the department. These applicants may be admitted subject to the discretion of the Electrical and Computer Engineering Graduate Committee. Applicants who want to be considered for an assistantship, or who feel that their GRE scores will enhance their chances for admission, are strongly encouraged to submit GRE scores.)

3. Submit GRE scores if the applicant did not obtain his bachelor’s degree from an ABET accredited institution. (An applicant possessing a bachelor’s degree from an ABET accredited institution is not required to submit GRE scores.)

4. Submit a completed application form and official transcripts of all college-level work to the Graduate College. In addition, submit a one page written statement of purpose indicating the applicant’s research interests, motivations and objectives, three dated letters of recommendation concerning the applicant’s potential for succeeding in the graduate program and an additional set of transcripts of all college-level work directly to the Department of Electrical and Computer Engineering.

5. For international applicants to be considered for admission, the Graduate College requires that they take the Test of English as a Foreign Language (TOEFL) and obtain a minimum score of 80 on the internet based examination. Students whose first language is not English may be required to take the English as a Second Language Placement Test upon arrival at UNLV. If necessary,
they will be required to take English as a Second Language (ESL) courses at UNLV. These courses will not count towards their graduate degree.

Degree Requirements
All M.S.E.E. candidates must maintain an overall minimum grade point average (GPA) of 3.00 (B) and a minimum GPA of 3.00 (B) each semester. Students who do not maintain an overall GPA of 3.00 (B) and a GPA of 3.00 (B) each semester will either be placed on probation or expelled from the program. The Electrical and Computer Engineering Graduate Committee and/or the Graduate College will determine the terms of the student’s probation in accordance with the rules of the Graduate College.

All regular status admitted graduate students must file an approved program before the completion of their second semester. The student’s advisor and the graduate coordinator must approve this program. All regular and provisional status graduate students must show satisfactory progress towards completion of their degree by completing at least six credits of their approved program per calendar year. If progress towards their degree program is not satisfactory, students will either be placed on probation or expelled from the program.

Specific Requirements for the M.S.E.E. degree are:

1. Satisfy the M.S.E.E. degree program admission requirements and be admitted to the M.S.E.E. program within a regular full graduate standing status.

2. Complete a minimum of 30 to 33 credits of graduate level courses with an overall minimum GPA of 3.00 (B) and a minimum GPA of 2.70 (B-) in each class applied towards the 30 to 33 credits. Grades below B- are not counted towards the M.S.E.E. degree and must be repeated or replaced. Continued enrollment of a student who earns more than one grade below B- is contingent upon the approval of the committee.

Thesis Option: A total of 30 credits are required for the Thesis Option. Of the 30 required credits, a minimum of 18 credits must be in electrical engineering courses, a minimum of 15 credits must be in 700-level electrical engineering courses excluding ECG 796 and ECG 797, and no more than 3 credits may be from ECG 791 Graduate Independent Study. Students opting for the Thesis Option must complete at least six credits of ECG 797 Electrical Engineering Thesis. Although ECG 797 Electrical Engineering Thesis can be taken repeatedly, no more than 6 credits can be applied towards the M.S.E.E. degree.

Course Only Option: A total of 33 credits are required for the Course Only Option. Of the 33 required credits, a minimum of 21 credits must be in electrical engineering courses, a minimum of 18 credits must be in 700-level electrical engineering courses and no more than 3 credits may be from EEG 791 Graduate Independent Study. The Course Only Option is a terminal degree. Electrical Engineering Graduate Program Document Revised: Feb. 28, 2007.

3. Successfully complete a minimum of three credits in at least three of the following areas:
   a. Computer Engineering
   b. Communications
   c. Control Systems
   d. Electromagnetics and Optics
   e. Electronics
   f. Power Systems
   g. Signal Processing
   h. Solid State Electronics, Materials and Devices

Thesis Option Only. Complete a thesis. Before beginning a thesis, students must have their thesis topic approved by their advisor, and the necessary paper work must be filed with the Graduate College.

The student must complete a thesis containing original research and defend it before his/her advisory committee at the Thesis Exam. The student can receive no more than 6 credits of ECG 797
Electrical Engineering Thesis for the work associated with the thesis. Students who plan to continue their studies beyond the M.S.E.E. degree program are strongly encouraged to select this option.

**Thesis Exam**
Prior to the student’s defense of the thesis before his/her advisory committee, the student must submit a complete copy of the thesis to each member of his/her advisory committee. This submission must occur at least two weeks prior to the date of the oral defense.

The student must also notify each member of his/her advisory committee of the date, time and location of the oral defense of the thesis or project at least two weeks in advance.

**Time Limits**
The Department of Electrical and Computer Engineering requires that the M.S.E.E. degree be finished within a period of six years. Courses taken more than six years prior to graduation may not be applied toward the M.S.E.E. degree.

**Fast Track M.S. Program**
The Fast Track M.S. program allows select UNLV undergraduates to pursue the M.S. in Engineering degree at UNLV. The program provides an opportunity for those undergraduates who have taken graduate-level electrical and computer engineering courses toward their undergraduate electrical/computer engineering degrees, to complete the M.S. in Engineering with a total of 24 as opposed to the 30 credits required for the conventional M.S. in Engineering (thesis option). Students admitted to the Fast Track program are required to write a theses.

**Admission Requirements**
To be considered for admission to the Fast Track M.S.E.E. Program Option, an applicant must:
1. Have a minimum overall grade point average (GPA) of 3.25 (A = 4.00) for their B.S. degree in electrical engineering, computer engineering or the closely related field.
2. Have completed at least 6 credits of graduate level courses which were applied towards the student’s B.S. degree. The graduate level coursework must have been completing with a minimum overall grade point average (GPA) of 3.0 (A = 4.00).

**Degree Requirements**
1. Students who have been admitted into the Fast Track M.S.E.E. Program Option must complete a minimum of 24 credits.
2. Of the 24 credits required for the M.S.E.E. Program Option and the 6 credits of graduate level courses applied toward the B.S. degree:
   a. a minimum of 18 credits must be in electrical engineering courses,
   b. a minimum of 15 credits must be in 700-level electrical engineering courses excluding ECG 796 and ECG 797
   c. and no more than 3 credits may be from ECG 791 - Independent Study in Electrical Engineering.
3. Students must complete at least six credits of ECG 797 - Electrical Engineering Thesis. Although ECG 797 Electrical Engineering Thesis can be taken repeatedly, no more than 6 credits can be applied towards the 24-27 credits required for the M.S.E.E. degree. Students must also complete a thesis and pass a thesis exam.

**Time Limits**
The Department of Electrical and Computer Engineering requires that the M.S.E.E. degree be finished within a period of six years. Courses taken more than six years prior to graduation may not be applied toward the M.S.E.E. degree.

**No Risk Ph.D. Pre-Qualifying Exams**
A full graduate standing master’s degree candidate who is interested in pursuing a doctoral degree may be allowed to take the Ph.D. qualifying exam without penalty during his/her period as an M.S. student. The
exam may be taken as many times as desired but no more than once a semester. Those areas that the student passes will count towards his/her qualifying exam requirement upon entering the Ph.D. program.

The candidate must complete an M.S. degree in the Electrical and Computer Engineering department. Once the student receives an M.S. degree in Electrical Engineering, the student must abide by the requirements outlined in the Ph.D. program. This option is not available to nondegree students.

**Electrical Engineering Ph.D.**

The Department of Electrical and Computer Engineering at UNLV offers a program leading to the Ph.D. degree in Engineering in the field of Electrical Engineering. Specific major areas of study currently available include: Communications, Computer Engineering, Control System Theory, Electromagnetics and Optics, Power Systems, Signal Processing, and Solid State Materials and Devices.

**Admission Requirement**

Applicants are considered on an individual basis. One may be admitted to the Ph.D. program by one of two mechanisms. The Conventional Ph.D. Option requires the student to complete an M.S. degree in Electrical and Computer Engineering. The Direct Ph.D. Option allows those undergraduates with outstanding undergraduate backgrounds to enter the Ph.D. program without having to complete an M.S. degree in Electrical and Computer Engineering. All requirements leading to a Ph.D. are still required beyond the B.S. degree in Electrical and computer Engineering excluding the completion of a master’s thesis.

**Conventional Ph.D. Option**

Applications are considered on an individual basis. Candidates can be admitted on a regular or provisional status. Qualified applicants who are not admitted can take a few graduate courses as a non-degree student not completing all of the Ph.D. requirements. Only 15 credits taken as a graduate non-admitted student can count toward the degree.

To be considered for admission to the Ph.D. program, an applicant must:

1. Have a Master of Science (M.S.) degree in electrical engineering or computer engineering;
2. Have a minimum overall grade point average (GPA) of 3.20 (A=4.00) for their master’s degree;
3. Submit GRE scores to the department and have obtained the following minimum scores:

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4. Submit a completed application form and official transcripts of all college-level work to the Graduate College. In addition, submit a one page written statement of purpose indicating the applicant’s research interests, motivations and objectives, three dated letters of recommendation concerning the applicant’s potential for succeeding in the graduate program and an additional set of transcripts of all college-level work directly to the Department of Electrical and Computer Engineering.

**Direct Ph.D. Option**

Applications are considered on an individual basis. To be considered for admission to the Ph.D. Program, an applicant must:

1. Have a minimum overall grade point average (GPA) of 3.50 (A=4.00) for their bachelor’s degree;
2. Submit GRE scores to the department and have obtained the following minimum scores:

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3. Submit a completed application form, a written statement of purpose indicating the applicant’s interests and objectives, three letters of recommendation concerning their
potential for succeeding in the Ph.D. program, and official transcripts of all college-level work to the Graduate College.

4. Submit a completed application form and official transcripts of all college-level work to the Graduate College. In addition, submit a one page written statement of purpose indicating the applicant’s research interests, motivations and objectives, three dated letters of recommendation concerning the applicant’s potential for succeeding in the graduate program and an additional set of transcripts of all college-level work directly to the Department of Electrical and Computer Engineering.

International Applicants

Before international applicants can be considered for admission, the Graduate College requires that all international applicants take the Test of English as a Foreign Language (TOEFL) and obtain a minimum score of 550. Student’s whose first language is not English may be required to take the English as a Second language Placement Test upon arrival at UNLV. If necessary, they will be required to take English as a Second Language (ESL) courses at UNLV. These courses will not count toward their graduate degree.

Ph.D Degree Requirements

All Ph.D. candidates must maintain a minimum overall grade point average (GPA) of 3.20 and a minimum GPA of 3.20 each semester. Ph.D. candidates who do not maintain an overall GPA of 3.20 and a GPA of 3.20 each semester will either be placed on probation or expelled from the program. The Electrical and Computer Engineering Graduate Committee and/or the Graduate College will determine the terms of the student’s probation in accordance with the rules of the Graduate College.

All regular status graduate students must file an approved program before the completion of their first semester. This program must be approved by the student’s advisor and the graduate coordinator. All regular and provisional status graduate students must show satisfactory progress towards completion of their degree by completing at least six credits of their approved program per calendar year. If their progress towards their degree program is not satisfactory, students will either be put on probation or expelled from the program.

Consecutive order of specific requirements for both the Direct and the Conventional Ph.D. options are:

1. Satisfy the Ph.D. degree program admission requirements and be admitted to the Ph.D. program on a regular status.

2. Pass the Qualifying Exam within two semesters of being admitted to the Ph.D. program on a regular status. The Qualifying Exam is offered once every Fall semester and once every Spring semester. This exam cannot be taken more than twice. The Qualifying Exam is described in Section 4.3 of the Graduate Program Document.

3. During the first semester, a Ph.D. student must select a faculty advisor. The faculty advisor does not have to be the one to whom the student was assigned upon entering the Ph.D. program. In coordination with the faculty advisor, the student must also form a doctoral advisory committee. A doctoral advisory committee is composed of at least five members of the UNLV Graduate Faculty. Three of these faculty members must be from the Department of Electrical and Computer Engineering, the fourth from a relevant supporting field, and the fifth is appointed by the Graduate College.

4. Beyond the M.S. degree, a Ph.D. student must complete a minimum of 27 credits of graduate-level courses with an overall minimum GPA of 3.20 and a minimum GPA of 2.70 (B-) in each class applied towards the 27 credits. Candidates in the Direct Ph.D. program must complete a minimum of 51 (24 M.S. + 27 Ph.D.) required credits. Grades below B- are not counted towards the Ph.D. degree and must be repeated or replaced.
Direct Ph.D. Option

Continued enrollment of a student who earns more than one grade below B- is contingent upon the approval of the graduate committee. Of the 51 required credits, a minimum of 33 credits must be in 700-level courses, and no more than six credits may be from ECG 791 (Graduate Independent Study). The student’s doctoral advisory committee may add more requirements in accordance with the individual’s background and field of study.

5. Beyond the bachelor’s degree, a Ph.D. student must complete a minimum of 15 credits in an approved major field, nine credits in each of the two approved minor fields. A minimum GPA of 3.33 (B+=3.30) must be obtained in each of the minor fields. Approved major and minor fields are described in detail in Section 4.8 of the Graduate Program Document.

6. After passing the Qualifying Exam, successfully completing all courses for a major field, and successfully completing all courses for the minor fields, students are eligible to take the Comprehensive Exam. All students must have passed the Comprehensive Exam within two semesters after successfully completing all required course work except for the 18 credits of ECG 799 (Dissertation). NOTE: Up to six credits of: ECG 799 - Dissertation taken prior to the successful completion of the Preliminary Exam may count toward the degree program. The Comprehensive Exam cannot be taken more than once per semester and cannot be taken more than twice. If the student’s GPA during his/her Ph.D. study is 3.8 or higher, comprehensive exam can be waived upon the approval of the Graduate Program Committee (GPC). If the student’s GPA is below 3.8, he/she will need to write this exam. The Comprehensive Exam is described in detail in Section 4.4 of the Graduate Program Document.

7. After successfully completing all required course work and passing the Comprehensive Exam, the students must pass the Preliminary Exam. The Preliminary Exam cannot be taken more than once per semester but may be repeated until passed. The Preliminary Exam is described in detail in Section 4.5 of the Graduate Program Document.

8. Complete a minimum of 18 credits of: ECG 799 - Dissertation and complete a dissertation containing original research. Upon completion, the student must pass the Final Exam in which the student defends his/her dissertation. The Final Exam is described in detail in Section 4.6 of the Graduate Program Document.

Conventional Ph.D. Option

Department of Electrical and Computer Engineering at UNLV offers Communications, Computer Engineering, Control System Theory, Electromagnetics and Optics, Electronics, Power Systems, Signal Processing, and Solid State Materials and Devices as major fields. Specific courses that can be applied to specific fields are listed in detail later in this section of the manual.

Each student must complete two minor fields. To complete a minor field, a student must complete a minimum of nine credits in an approved minor field and have an overall minimum GPA of 3.33 (B+=3.30) for the nine minor field credits. Of the
nine required credits in each minor field, a minimum of six credits must be in 700-level courses.

Specific courses that can be applied to specific minor fields are listed in detail in this section of the manual. Some courses may be listed under two different fields. Such a course can be applied to only one field. With the written approval of the major advisor and the student’s advisory committee, a mixed minor field may be formed with courses inside and/or outside of the Electrical Engineering department’s approved fields (e.g., a mixed minor in mathematics and physics, a mixed minor in computer engineering and computer science, a physics minor, a mechanical engineering minor, sold state and electromagnetics mixed minor, etc.). A mixed minor may not be composed of courses in the Electrical Engineering Department that satisfy course work in the major and other minor field. The only exception is when a course may be used in more than one field. In this case, the course may not be counted twice but may be used for either minor area. However, the student must complete at least one minor field in Electrical Engineering in a single area. Refer to the department’s Graduate Program Handout regarding specific courses than can be applied to specific minor fields.

**International Applicants**

For international applicants to be considered for admission, the Graduate College requires they take the Test of English as a Foreign Language (TOEFL) and obtain a minimum score of 550 or 85 on the Michigan Test. Student’s whose first language is not English may be required to take the English as a Second Language Placement Test upon arrival at UNLV. If necessary, they will be required to take English as a Second Language (ESL) courses at UNLV. These courses will not count toward their graduate degree.

**Graduate Teaching Assistantships**

The Department of Electrical and Computer Engineering has a limited number of Teaching Assistantships that are awarded to superior students. To be considered for a teaching assistantship, a student must submit Graduate Record Examination (GRE) scores to the Department of Electrical and Computer Engineering. Prospective students should contact the department’s Graduate Coordinator for additional information and refer to the Graduate Catalog for submission deadlines.

Teaching Assistants perform an average of 20 hours per week of teaching related service and are required to complete a minimum of six credit hours per semester. Teaching Assistants who are also working toward the M.S.E.E. degree must take the Thesis Option. Teaching Assistants who do not adhere to these requirements, do not perform their teaching duties satisfactorily, or do not maintain the minimum GPA requirements specified by their degree programs can lose their assistantships and/or will be placed on probation. The Electrical and Computer Engineering Graduate Committee will determine the terms of the student’s probation. International Teaching Assistants are required to receive a passing score (50 out of 60 points) on the Test of Spoken English (TSE) prior to assuming any type of instructional duties.

**Fast Track Ph.D. Program**

The Fast Track Ph.D. program allows select UNLV undergraduates to pursue the Ph.D. in Engineering degree at UNLV. The program provides an opportunity for those undergraduates who have taken graduate-level electrical and computer engineering courses toward their undergraduate electrical/computer engineering degrees, to complete the M.S. in Engineering with a total of 45 as opposed to the 51 credits required for the direct Ph.D. in Engineering.

**Admission Requirements**

1. Have a Bachelor of Science (B.S.) degree in electrical engineering, computer engineering or a closely related field.
2. Have a minimum overall grade point average (GPA) of 3.50 (A = 4.00) for their B.S. degree in electrical engineering, computer engineering or the closely related field.
3. Have completed at least 6 credits of graduate level courses which were applied
towards the student’s B.S. degree. The graduate level coursework must have been completing with a minimum overall grade point average (GPA) of 3.2 (A = 4.00).

**Degree Requirements**

Students who have been admitted into the Fast Track Ph.D. Program Option must complete a minimum of 45 credits. Of the 45 required credits required for the Fast Track Ph.D. Program Option and the 6 credits of graduate level courses applied toward the B.S. degree, a minimum of 33 credits must be in 700-level courses, and no more than 6 credits can be from ECG 791 - Independent Study in Electrical Engineering. The student’s doctoral advisory committee may add more requirements in accordance with the individual’s background and field of study. Students on academic probation may be transferred to the M.S.E.E. Program depending on the student’s academic record.

**Electrical Engineering Fast Track M.S.E.E.**

UNLV undergraduate students who have been approved to take graduate level electrical and computer engineering courses toward The Department of Electrical and Computer Engineering allows UNLV undergraduate students who have successfully completed to pursue the Masters in Electrical Engineering who have M.S. in EE degree at UNLV.

The ECE department currently allows the best undergraduate students (with approvals by the students' academic advisors and the ECE department undergraduate committee) to take graduate level electrical and computer engineering courses toward their undergraduate electrical/computer engineering degrees. To avoid the situation that these students have to retake the same courses they took in their undergraduate studies, we would like to offer these brilliant students an opportunity that they can graduate with a total of 24 credits as opposed to 30 credits required for our conventional M.Sc. in E.E. program (thesis option). The students who are admitted into this fast track program are required to write M.S. theses with their academic advisors.

**ECG 600**  
**Credits 3**  
**Computer Communication Networks**

Computer network architecture; the OSI Model; network protocols; local area networks; fiber optics communication; ISDN; elements of Queueing Theory, with emphasis on hardware design issues.

**ECG 604**  
**Credits 3**  
**Modern Processor Architecture**


**ECG 605**  
**Credits 3**  
**Data Compression Systems**


**ECG 607**  
**Credits 3**  
**Biometrics**

Taxonomies of devices and applications, probability and statistical testing methods, one and two dimensional transform techniques, fingerprinting, voice recognition, facial recognition, and iris scanning, large scale identification applications, multibiometrics, social, legal, and ethical concerns.

**ECG 608**  
**Credits 3**  
**Digital Design Verification and Testing**

A study of complete digital design testing during all design flow stages - from writing code to testing chips after manufacturing, creating and implementing effective test scenarios and assertion techniques, designing self-testing devices. Students will get hands-on experience with various EDA tools for
design testing, verification, logic and fault simulation.

**ECG 610**  
Credits 3  
**Hardware Description Language: VHDL**  
Modern methodologies in design and test of digital/computer systems. Primary focus on very high speed integrated circuit systems. Primary focus on very high speed integrated circuit hardware description languages, in particular, VHDL. Verilog and other hardware programming languages explored. Behavior level simulation, debugging. Introduction to synthesis, placement and routing.

**ECG 615**  
Credits 3  
**Introduction to VLSI System Design**  
Introduction to the theory, design and implementation of digital VLSI systems including MOS transistor theory and integrated circuit fabrication technology, digital system design, layout and design rules and use of CAD tools.

**ECG 622**  
Credits 3  
**Introduction to Analog Integrated Circuit Design**  
Design of CMOS, BICMOS, and bipolar analog integrated circuits. Topics include device models, current mirror design, single stage amplifier design, differential amplifier design, frequency response analysis and noise analysis.

**ECG 630**  
Credits 3  
**Transmission Lines**  
Telegraphist’s equations; transient response—steady state response; reflection diagrams; Smith chart; matching techniques and designs; narrow and broadband impedance matching techniques; scattering matrix; introduction to stripline and microstrip devices.

**ECG 631**  
Credits 3  
**Engineering Optics**  
Fundamentals of antennas and antenna design; linear wire, loop, and antenna arrays; antenna measurements.

**ECG 632**  
Credits 3  
**Antenna Engineering**  
Fundamentals of antennas and antenna design; linear wire, loop, and antenna arrays; antenna measurements.

**ECG 633**  
Credits 3  
**Active and Passive Microwave Engineering**  
This 600-level course has been approved by the Graduate College for possible inclusion in graduate programs. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**ECG 642**  
Credits 3  
**Power Electronics**  
Topics include: diode circuits and rectifiers, power semiconductor diodes and transistors, thyristors and static switches, controlled rectifiers, AC voltage controllers, DC choppers, inverters, AC and DC drives, power supplies and protection of devices and circuits.

**ECG 650L**  
Credits 1  
**Solid State Characterization Laboratory**  
Capacitance and voltage. Hall mobility and carrier concentration, oxidation and etching silicon dioxide processing of silicon.

**ECG 651**  
Credits 3  
**Electronic and Magnetic Materials and Devices**  
Semiconductors, dielectrics, ferroelectrics, antiferromagnetics, ferromagnetics, ferrimagnetics, crystal structure, structure-property relations, device applications.

**ECG 652**  
Credits 3  
**Optoelectronics**  
Topics include: modulation of light, display devices, lasers, photodetectors, fiber optics, engineering applications, and systems.

**ECG 653**  
Credits 3  
**Introduction to Nanotechnology**  
ECG 662  Credits 3  
**Advanced Digital Communications**
Information theory and fundamental limits on performance, digital coding of waveforms, pulse shaping for baseband transmission, digital bandpass modulations, channel coding.

ECG 672  Credits 3  
**Digital Control Systems**
Introduction to discrete time of control. State space representation of linear systems; stability; the concepts of controllability and observability. Sample data control system design techniques, including pole placement, observer design.

ECG 674  Credits 3  
**Recent Topics in Control**
This 600-level course has been approved by the Graduate College for possible inclusion in graduate programs. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ECG 680  Credits 3  
**Discrete-Time Signal Processing**
Review of discrete linear system theory including the z-transforms, the Fourier transform, discrete and fast Fourier transform. Sampling, reconstruction multirate systems and quantization noise. IIR and FIR digital filter design including digital filter structures and finite word length effects.

ECG 680L  Credits 1  
**Digital Signal Processing Laboratory**
Laboratory projects and exercises in digital signal processing including the design and implementation of FIR, IIR, and multirate systems.

ECG 682  Credits 3  
**Introduction to Biomedical Signals and Systems**
Introduction to biomedical signals, transduction devices, bioelectric potentials and sensors. Application of electrical signal and system principles to biosignals, such as cardiovascular electrical signals, neural electrical communication, and diagnostic ultrasound. Includes current biomedical engineering topics.

ECG 695  Credits 1-4  
**Special Topics**
Covers experimental and other topics which may be of current interest. Topics and credits to be announced.

**Notes:** May be repeated once under a different topic. May have a laboratory.

ECG 700  Credits 3  
**Advanced Computer System Architecture**
High performance computer architecture including pipelining techniques, high speed memory systems, vector processors, parallel processing, and interconnection networks. **Prerequisites:** ECG 300 or consent of instructor.

ECG 701  Credits 3  
**Reliable Design of Digital Systems**
D-algorithm, Boolean difference, test generation for combinational and sequential circuits, self checking circuits, fault tolerant design, design for testability, and topics in reliability and maintainability. **Prerequisites:** ECG 300 or consent of instructor.

ECG 702  Credits 3  
**Interconnection Networks for Parallel Processing Applications**
Interconnection networks models, comparison of single-stage networks: PM2I, HYPERCUBE Illiac and shuffle-exchange, partitioning single-state networks, multistage networks, survey and comparison of fault-tolerant multistage networks. **Prerequisites:** ECG 300 or consent of instructor.

ECG 703  Credits 3  
**Advanced Digital Logic**
Sets, relations, and lattices. Switching algebra and its applications, functional decomposition and symmetric functions, Turing machine, finite state recognizer. **Prerequisites:** ECG 100

ECG 704  Credits 3  
**Coding with Applications in Computers and Communication Media**
Error correcting codes, design and analysis of encoder/decoder circuitry, applications to reliable communication and fault tolerant computing, compression encoding schemes. **Prerequisites:** ECG 300, MATH 453, or consent of instructor.

**ECG 705**  
**Fault-Tolerant Computing**  
Credits 3  
Fault-tolerant design of digital systems. Static, dynamic, hybrid, self-purging redundancies. Error-correcting codes and system diagnosis. Fault-tolerance in multiprocessor and VLSI based-systems, including token BUS, shared memory interconnections, and tree, binary cube and loop networks. Examples of practical fault-tolerant systems. **Prerequisites:** ECG 300

**ECG 706**  
**Analysis of Telecommunication and Data Networks**  
Credits 3  
Probability-based treatment of telecommunication and data networks. Delay, throughput, buffer management in layers of ISO Open Systems Interconnection Model. Performance analysis, flow and congestion control, routing function, polling and random access, CSMA/CD and Ethernet. **Prerequisites:** ECG 300 and MATH 462

**ECG 707**  
**Logic Synthesis Engineering**  
Credits 3  
Theory and application of Boolean Minimization, functional decomposition and logic synthesis for FPGAs, serial and parallel decomposition strategies, and design implementation using FPGAs. Design entry, introduction to VHDL, BDD, FSM, and BLIF. Placement and routing in Xilinx and Aleira. **Prerequisites:** Graduate standing in computer engineering or consent of instructor.

**ECG 708**  
**Biosurveillance**  
Credits 3  
Introduction to biosurveillance systems (biowatch, ESSENCE, RODS), initiatives (biosense) and biodata organizations (CDC, HIS, DHS), biosensors, biosurveillance, data collection and analysis, false positive/negative rates, sensitivity and specificity. Statistical signal processing tools used in classification and decision making. Real-time biosurveillance and network support. **Prerequisites:** Graduate standing.

**ECG 709**  
**Synthesis and Optimization of Digital Systems**  
Credits 3  
Study of the high-level synthesis and optimization algorithms for designing SOCs and MPSoCs. Topics including algorithms for high-level synthesis, scheduling, resource binding, real-time systems, application specific instruction processors, embedded systems and hardware/software codesigns. Simulate and synthesize algorithms using HDL languages (Verilog and SystemC). Use of simulators and emulators. **Prerequisites:** CPE 300 and C/C++ knowledge or Instructor permission

**ECG 720**  
**Electronic Design with Integrated Circuits**  
Credits 3  
Designing electronics systems using linear and digital integrated circuits. Topics include operational amplifiers, linear and nonlinear applications, waveform generation, low noise circuits, active filters, digital ICs. A/D conversion, grounding and shielding, and system design. Intended for electrical and electronic students. **Prerequisites:** ECG 421, ECG 420 and consent of instructor.

**ECG 721**  
**Low Noise Electronics**  
Credits 3  
Noise mechanisms in semiconductor devices, noise calculations, low noise designs, high gain multistage amplifiers, matched filters, shielding. **Prerequisites:** Graduate standing or consent of instructor.

**ECG 730**  
**Advanced Engineering Electromagnetics I**  
Credits 3  
Conformal transformation with application to static field problems in engineering; wave harmonics with engineering applications; theorems of waves and media; Special Theory of Relativity with engineering applications; wave propagation in various media; engineering application of scattering. **Prerequisites:** ECG 330 or consent of instructor.

**ECG 731**  
**Theoretical Techniques in Electromagnetics**  
Credits 3
Review and introduce mathematical techniques basic to the study of engineering electromagnetics, including coupled mode theory; complex analysis; and Green's function. **Prerequisites:** ECG 330 or consent of instructor.

**ECG 732**  
**Credits 3**  
**Advanced Engineering Electromagnetics II**  
Scattering; particle and beam radiation; selected topics in advanced antenna and microwave engineering. **Prerequisites:** ECG 330 or consent of instructor.

**ECG 733**  
**Credits 3**  
**Plasma I**  
Single particle motion; adiabatic invariants; plasmas as fluids; waves in plasmas; diffusion; resistivity; introduction to kinetic theory; Landau damping. **Prerequisites:** ECG 330

**ECG 740**  
**Credits 3**  
**Computer Analysis Methods for Power Systems**  
Power system matrices, programming considerations, conventional power flow studies, approximate and fast power flow studies, optimal dispatch, fault studies, power system stability, stochastic methods in power systems analysis. **Prerequisites:** ECG 440, ECG 440L or consent of instructor.

**ECG 741**  
**Credits 3**  
**Electric Power Distribution System Engineering**  
Electric load characteristics, distribution transformers, design of subtransmission lines and distribution substations, design of primary and secondary systems, voltage drop and power loss calculation, capacitor applications, voltage regulation, distribution system protection and reliability. **Prerequisites:** ECG 440, ECG 440L or consent of instructor.

**ECG 742**  
**Credits 3**  
**Power System Stability and Control**  
Power equipment dynamic characteristics and modeling, control of active and reactive power, small-signal stability, transient stability, voltage stability, sub-synchronous oscillations, mid- and long-term stability, methods of improving stability. **Prerequisites:** ECG 440, ECG 440L or consent of instructor.

**ECG 750**  
**Credits 3**  
**Optical Electronics I**  
Propagation of rays and beams, optical beams in fibers, resonators, laser oscillation, electro-optic, modulation, laser systems. **Prerequisites:** MATH 432, ECG 330, ECG 452 or consent of instructor.

**ECG 751**  
**Credits 3**  
**Optical Electronics II**  
Detection of optical radiation, optical dielectric waveguides, semiconductor lasers, phase conjugate optics, laser applications including holography. **Prerequisites:** ECG 750

**ECG 752**  
**Credits 3**  
**Physical Electronics**  
Quantum Theory, electron in potential well, harmonic oscillator, Band Theory of Solids, Kronig-Penny model, theory of metallic state, diffraction by crystals, electronic structure of solids. **Prerequisites:** ECG 320 or consent of instructor.

**ECG 753**  
**Credits 3**  
**Advanced Topics in Semiconductor Devices I**  
Topics of current interest in solid state electronic devices: physics of semiconductors, thermal and optical and electronic properties of semiconductors, bipolar junction devices, field effect devices, surface related effects, optoelectronic devices, semiconductor lasers. Applications and the design of circuits using these devices. Intended for electrical and electronic engineers, physicists and qualified senior students in engineering and physics. **Prerequisites:** PHYS 411 and 483 or ECG 421, ECG 420 and consent of instructor.

**ECG 754**  
**Credits 3**  
**Hybrid Microelectronics**  
Vacuum theory, thin and thick film fabrication, electron transport phenomena, electronic properties active and passive films, distributed networks,
designing hybrid microcircuits. **Prerequisites:** Graduate standing or consent of instructor.

**ECG 755**  
**Credits 3**  
**Monolithic Integrated Circuit Fabrication**  
Fabrication of integrated silicon and gas circuits, thermal oxidation, solid state diffusion, epitaxial growth, ion implantation, photo and electron lithography, design considerations, surface effect. **Prerequisites:** Graduate standing or consent of instructor.

**ECG 756**  
**Credits 3**  
**Advanced Topics in Semiconductor Devices II**  
Topics of current interest in solid state electronic devices: ultrafast electronics, high electron mobility transistors, superlattices, heteroface devices, transfer electron devices and III-V and II-VI compounds, novel device structures. Novel approaches to device modeling such as Monte Carlo simulations, self-consistent solution of Schroedinger and Poisson and other approaches. **Prerequisites:** ECG 753

**ECG 757**  
**Credits 3**  
**Electron Transport Phenomena in Solid State Devices**  
Phenomenological transport equations, Boltzmann transport equation, relaxation time approximation, low field and high electron transport in Si and GaAs, moments of BTE, Monte Carlo simulation, spatial and temporal transients, device analysis, Quantum transport. **Prerequisites:** ECG 450 or ECG 753.

**ECG 758**  
**Credits 3**  
**Numerical Methods in Engineering**  
Computational course with emphasis on both the numerical analysis and the programming aspects of computer-aided design using simulation methods. Coverage includes understanding and use of CAD programs such as ECAP, CIRCUS, ICECREM, SUPREM, etc. **Prerequisites:** Graduate standing or consent of instructor.

**ECG 760**  
**Credits 3**  
**Random Processes in Engineering Problems**  
Basic probability theory, random variables, probability and densities, expectation, static estimation, random processes, power spectral density, mean square calculus, Wiener integrals. **Prerequisites:** ECG 460, MATH 461 or consent of instructor.

**ECG 761**  
**Credits 3**  
**Spectral Analysis and Time Series**  
Stationary random processes. Spectral representation. Estimation of correlation functions and spectra. Higher order spectra and nonlinear system models. **Prerequisites:** ECG 460, ECG 760 or consent of instructor.

**ECG 762**  
**Credits 3**  
**Detection and Estimation of Signals in Noise**  
Hypothesis testing, matched filters, estimation theory, Kalman and Wiener filters, applications to communication systems. **Prerequisites:** ECG 460, ECG 760 or consent of instructor.

**ECG 770**  
**Credits 3**  
**Linear Systems Theory**  
Mathematical systems theory, state space concepts, canonical forms, time and frequency domains, controllability and observability, state feedback, compensator design, and algebraic systems theory. **Prerequisites:** ECG 470, MATH 431 or consent of instructor.

**ECG 771**  
**Credits 3**  
**Optimal and Modern Controls**  
Review of analysis of linear control systems, optimal control systems, time and frequency domains, regulator problems, deterministic and random processes. **Note:** Topics selected according to the interests of the class. **Prerequisites:** ECG 770

**ECG 772**  
**Credits 3**  
**Nonlinear Systems I**  
Introduction, differential equations, approximate analysis methods, Lyapunov stability, input-output stability. **Prerequisites:** ECG 770 or consent of instructor.

**ECG 773**  
**Credits 3**  
**Multivariable Control**
Mathematical preliminaries, frequency domain representation, differential operator representation, linear state feedback, frequency domain compensation, fractional approaches, recent topics in control. **Prerequisites:** ECG 770 or consent of instructor.

**ECG 774**  
**Credits 3**  
**Stochastic Control**  
Introduction, stochastic processor, state estimation, Kalman Filter, nonlinear estimation, stochastic control. **Prerequisites:** ECG 770 or consent of instructor.

**ECG 775**  
**Credits 3**  
**Nonlinear Systems II**  
Geometric approach to nonlinear systems, inversion of input-output map, decomposition, noninteraction, disturbance decoupling, exact linearization, nonlinear control synthesis, Volterra series, realization theory. **Prerequisites:** ECG 772 or consent of instructor.

**ECG 776**  
**Credits 3**  
**Adaptive Control**  
Introduction, model reference control, hyperstability, Popov criterion, parameter identification, adaptive control of discrete systems, adaptive predictor, adaptive state estimation. **Prerequisites:** ECG 770 (formerly EEG 760) or consent of instructor.

**ECG 777**  
**Credits 3**  
**Robotic Systems Control**  
Dynamics of rigid and elastic robotic systems, trajectory planning, inverse torque computation, adaptive control, variable structure control, torque and force feedback control. **Prerequisites:** Consent of instructor.

**ECG 780**  
**Credits 3**  
**Digital Signal Processing**  
Introduction to the theory and applications of digital signal processing. Discrete-time signals, linear systems and difference equations. Sampling and multirate systems. One sided and two sided z-transforms. Finite impulse response (FIR) and infinite impulse response (IIR) systems. The discrete and fast Fourier transforms (FFT). **Prerequisites:** ECG 460, MATH 431 or consent of instructor.

**ECG 781**  
**Credits 3**  
**Digital Filters**  
Theory and applications of digital filters. Structures for discrete time systems. Finite precision numerical effects in digital systems. Finite impulse response (FIR) and infinite impulse response (IIR) digital filters designs including windowing techniques, optimization techniques, analog to discrete time transformation techniques and wave digital filters. **Prerequisites:** ECG 780

**ECG 782**  
**Credits 3**  
**Multidimensional Digital Signal Processing**  
Theory and applications of multidimensional (M-D) digital signal processing. M-D signals and systems. M-D z-transform. M-D DFT and FFT. Design and implementation of M-D FIR and IIR filters. Applications to image processing such as image enhancement and restoration. Advanced topics chosen according to class interests. **Prerequisites:** ECG 780

**ECG 783**  
**Credits 3**  
**Adaptive Signal Processing with Neural Networks**  

**ECG 791**  
**Credits 1 – 3**  
**Independent Study in Electrical Engineering**  
Supervised independent work in a topic of electrical engineering. **Notes:** May be repeated to a maximum of six credits with consent of electrical engineering faculty. **Prerequisites:** Graduate standing in electrical engineering or related field and consent of instructor.

**ECG 795**  
**Credits 1 – 3**  
**Advanced Special Topics in Electrical Engineering**
Advanced special topics in modern electrical engineering as defined in the announcement of the course. **Notes:** May be repeated to a maximum of six credits. **Prerequisites:** Graduate standing in electrical engineering or related field and consent of instructor.

**ECG 796**  
**Credits 1 – 3**  
**Electrical Engineering Project**  
Advanced project in electrical engineering.  
**Notes:** May be repeated to a maximum of six credits.  
**Prerequisites:** Graduate standing in electrical engineering or related field and consent of instructor.

**ECG 797**  
**Credits 3 – 6**  
**Electrical Engineering Thesis**  
**Notes:** May be repeated, but only six credits will be applied to a student's program. **Grading:** S/F grading only. **Prerequisites:** Graduate standing in electrical engineering or related field and consent of instructor.

**ECG 799**  
**Credits 1 – 6**  
**Dissertation**  
Research analysis and writing toward completion of dissertation and subsequent defense. **Notes:** May be repeated to a maximum of 18 credits allowed toward the degree. **Grading:** S/F grading only.  
**Prerequisites:** Graduate standing in electrical engineering or related field and consent of instructor.
School of Informatics
(Programs are no longer accepting students)

Director
Berghel, Hal
(1999), Professor; B.A., M.A., M.A., Ph.D., University of Nebraska, Lincoln.

Graduate Coordinator
Nasoz, Fatma
(2006), Assistant Professor; B.S., Bogazici University; M.S., Ph.D., University of Central Florida.

Graduate Faculty
Aalberts, Robert J.
(1991), Leid Professor; B.A., Bemidji State University; M.A., University of Missouri; J.D., Loyola University.

Brewer, Kathleen Pearl
(1993), Professor; B.S., M.S., Ph.D., Purdue University.

Jo, Ju-Yeon
(2006), Assistant Professor; B.S., Dongguk University; M.S., The University of Connecticut; Ph.D., Case Western Reserve University.

Palmer, Craig
(1995), Adjunct Professor; B.S., Brigham Young University; Ph.D., University of Missouri-Columbia.

Rice, Stephen
(1996), Professor; B.S., M.Eng., Ph.D., University of California, Berkeley.

Informatics addresses the impact technology has on people, the development of new uses for technology and the application of information technology in the context of another field. Information technology (IT) is rapidly changing the world, creating new challenges and opportunities every day. In fact, the impact of IT is so great that a new field, informatics, was created to study it. Informatics equips students to study IT, consider its social impact, and find ways to use technology to solve problems. Usually, informatics is used within another field, and a number of specializations are now identified, such as bioinformatics, cybersecurity, chemical informatics, human-computer interaction design, new media, and healthcare informatics.

The following are exemplars of new informatics areas:
digital cinematography (Entertainment Informatics)
design of interactive IT systems for resorts and casinos (Hospitality Informatics)
design of digital interfaces in computing, entertainment, digital appliances, etc. (Digital Media/Human Computer Interaction) developing anti-spam and anti-phishing tools (Cybersecurity) computing and Network Forensics (Cybersecurity) innovation with virtual reality technologies (Digital Media/Human Computer Interaction) developing medical information system tools (Healthcare Informatics) digitizing the choreography of a play (Entertainment Informatics) understanding the human genome (BioInformatics)

In many ways, informatics is a bridge connecting IT to a particular field of study such as biology, chemistry, fine arts, telecommunications, geography, engineering, business, economics, journalism, etc. Because of this, all Informatics students choose a field or discipline that interests them (which we call a cognate). The cognate allows them to follow their own personal interests, and take courses in other programs at UNLV.

Some cognates lead to recently recognized disciplines, as ecology leads to eco-informatics. Other cognates lead to well-understood careers that are just now emerging as disciplines, such as fine arts leading to the design of interactive Internet Web sites, animations, digital motion pictures, and interactive art. For those interested in computers and programming, the computer science cognate adds further technology strength to our human-centered, problem solving curriculum.
Graduates from the School of Informatics will possess the skills to apply information technology deeply and effectively in related disciplines, referred to as cognate areas. These graduates will be ideally suited to achieve profound advances in these cognate areas. At the graduate level, the School of Informatics offers M.S. and Ph.D. degree programs in Informatics. Each degree program has different curriculum requirements.

**Programs**
- Informatics M.S.
- Informatics Ph.D.

**Informatics M.S.**

The objective of the M.S. in Informatics is to provide graduates with a balanced mix of theoretical and practical knowledge of Informatics. Graduates will be capable of assisting organizations of all sizes in leveraging information technology in other disciplines.

**Admission Requirements**

Admission to the program may be granted for either the Fall or Spring semester. Admission requirements include:

1. Online application to the Graduate College.
2. Bachelor's degree in Informatics, computer science, information systems, information science or one of the cognate areas.
3. A minimum undergraduate GPA of 3.0 or a 3.25 for the last 2 years of undergraduate work is required.
4. GRE 1200 minimum with no less than 500 in either the verbal or quantitative test.
5. TOEFL minimums of 213 (Computer), 550 (paper), 80 (Internet) for international applicants.
6. Three letters of recommendation from former instructors or employers that address the applicant’s potential as a graduate student in the informatics area.
7. Academic transcripts.
8. Resume.
9. A personal statement of purpose, which should be as specific as possible, and should include the applicant’s objectives and areas of interest(s).

**Degree Requirements**

The degree is comprised of 36 credits of coursework. Fifteen (15) credits comprise an essential set of core courses. Fifteen (15) credits address elective topics or pre-approved courses from cognate areas. Students must complete:

INF 790 - Informatics Project and:
INF 792 - Internship.

The informatics core courses include:
- INF 700 - Theoretical Foundations of Informatics
- INF 710 - Informatics Systems and Networks
- INF 720 - Information Security
- INF 730 - Human Computer Interaction
- INF 740 - Digital Media Design, Technology and Representation

**Notes:** Master’s degree with “thesis-option” is also available. The thesis option would be consisted of the same coursework load as the “non-thesis option” except that at least 6 credits of M.S. thesis work would take the place of INF 790 Informatics Project and one of the Cognate or Informatics Elective Course.

Students must meet a minimum 3.0 GPA for graduation. Students must also agree to abide by the Association for Computing Machinery’s “Code of Ethics and Professional Conduct” for computing professionals (http://www.acm.org/constitution/code.html).

Informatics Ph.D.

The objective of the Ph.D. in Informatics is to provide graduates with an extensive conceptual framework for, and background in Informatics and to prepare them to conduct research in the field.

**Admission Requirements**
In addition to the requirements of the Graduate College, applicants for admission to the Ph.D. program in Informatics must meet the following requirements.

1. Online application to the Graduate College.
2. Master's degree in informatics, computer science, information systems, information science, other closely related discipline, or one of the cognate areas. An unusually capable student with a Bachelor's degree may be admitted to work directly for the PhD degree.
3. A GPA of 3.3 or higher in post-baccalaureate course work.
4. GRE 1200 minimum with no less than 500 in either the verbal or quantitative test.
5. TOEFL minimums of 213 (Computer), 550 (paper), 80 (Internet) for international applicants.
6. Three letters of recommendation from former instructors or employers that address the applicant's potential as a graduate student in the informatics area.
7. Academic transcripts.
8. A personal statement of purpose, which should be as specific as possible, and should include the applicant's objectives and areas of interest(s).
9. Resume

**Degree Requirements**

The Ph.D. degree is awarded to a candidate who has demonstrated breadth of knowledge in informatics in general, and has displayed depth of knowledge in the area of specialty as well as the ability to make original contributions to the body of knowledge in this field.

To successfully complete the Ph.D. program a student must fulfill all the Graduate College degree requirements as well as the following requirements:

The qualifying examination is an oral examination designed to test the depth and breadth of the student’s knowledge in his or her area of research specialization. It must be taken before either (a) 2 years after passing the comprehensive examination or (b) 4 years after entering the Ph.D. program. It generally focuses on his/her dissertation proposal. The main purpose of this exam is to evaluate the technical merits and feasibility of the student’s proposal for his/her Ph.D. dissertation. The
examination must be conducted by the student’s Ph.D. committee. This committee consists of five faculty members of whom one must be from outside the Proposed School of Informatics. The student’s advisor is the chairperson of this committee. The faculty member from outside the school is selected by the Graduate College from three faculty members who are suggested by the student in consultation with his or her advisor.

The student must prepare a dissertation proposal prior to taking this examination. This proposal should have already been approved by the student’s advisor. This proposal must be given to the Ph.D. Advisory Committee members at least two weeks before the date of the qualifying exam. The proposal must contain a discussion of the background literature on the problem area, description of the specific topic of research proposal approach, feasibility arguments, the objective of the research project, and a list of references.

The student begins the exam with a presentation of his or her dissertation proposal. The remaining time is used for discussion and asking questions to determine if the student has sufficient depth of knowledge to carry out the proposed research. The examination cannot be taken more than twice. After successful completion of the qualifying examination, the student is advanced to candidacy for the degree.

**Preparation of Dissertation**

The candidate must prepare a dissertation on his or her research. The Ph.D. dissertation should represent a significant original research contribution to the field of informatics.

**Oral Defense**

After completion of the dissertation the candidate must pass a final oral examination in defense of his/her dissertation. The candidate must make the final changes, if any, in the dissertation within three months from the date of the oral defense.

A candidate can defend his or her dissertation at most twice. The Ph.D. dissertation must be approved by each member of the student’s PhD Advisory Committee.

**Satisfactory Progress**

To maintain satisfactory progress in the Ph.D. program a student must:

1. Pass the comprehensive examination within 2.5 years of entering the Ph.D. program.
2. Maintain a minimum grade point average required by the Proposed School of Informatics.
3. Pass the qualifying examination within 4 years of entering the Ph.D. program.
4. Maintain satisfactory progress towards research.
5. Students must complete all requirements for the Ph.D. degree within six years.

If these requirements are not met the school may place the student on academic probation or drop him/her from the Ph.D. program.

**INF 700**

**Credits 3**

**Theoretical Foundations of Informatics**

Overview of theoretical concepts in informatics, including first-order logic, computability theory, graph theory, sets and relations, combinatorial math, and statistics. **Prerequisites:** Consent of instructor.

**INF 710**

**Credits 3**

**Informatics Systems and Networks**

In-depth study of various types of information systems and networks. Topics include: types of information systems; data and knowledge management; computer networks and the Internet; wireless and mobile network; e-business and e-commerce; network management. **Prerequisites:** Consent of instructor.

**INF 720**

**Credits 3**

**Information Security**

Overview of the principles and the technologies behind information security. Topics include: risks and vulnerabilities; principles of information security; encryption; security mechanisms in information systems; administration of information security, information crime, and legal and ethical issues. **Prerequisites:** Consent of instructor.

**INF 730**

**Credits 3**

**Human Computer Interaction**
Covers the fundamental concepts and techniques for design, implementation, and evaluation of human computer interfaces. Topics include Foundations of Human computer interaction, design and implementation techniques for graphical user interfaces, evaluation techniques, and different interface models. Prerequisites: Consent of instructor.

INF 731 Credits 3
Advanced HCI - Design and Implementation
This course is organized around readings that reinforce the student's knowledge in Human Computer Interaction guidelines, principles, and theories and mainly around projects that allow students to apply theoretical knowledge to the design, implementation, and evaluation of interactive computer systems. Prerequisites: INF 730

INF 732 Credits 3
Affectively Intelligent Systems
Focuses on computational emotion modeling which spawns from a variety of interest: improving basic understanding of the functional role of emotions in humans; integrating emotion recognition and prediction techniques; synthesizing emotion and expression of emotion to apply to synthetic characters, autonomous software agents or robots; understanding social implications of affective information and communication technology. Prerequisites: INF 700

INF 740 Credits 3
Digital Media Design, Technology and Representation
Covers principles of design to visualize new media concepts in any medium. Exposes students to new and emerging digital media technologies and applications. Prerequisites: Consent of instructor.

INF 760 Credits 3
Advanced Theoretical Foundations of Informatics
Advanced course to cover mathematical methods for information modeling, analysis, and manipulation. Requires various research article reading and discussions. Topics include proof techniques, first-order logic, computability theory, complexity theory, model theory, and statistics. Prerequisites: INF 700

INF 770 Credits 3
Social Foundations of Informatics
Covers the relationships between social systems and information and communication technologies. Focuses on social factors that influence the organization of information technologies in social and organizational systems, and how the human social factors and technological tools mutually contribute to the field of Informatics. Prerequisite: Consent of instructor.

INF 780 Credits 3
Special Topics in Informatics
Emphasis is on new developments and research in science, humanities, fine arts, and other domain informatics. Prerequisites: INF 700

INF 790 Credits 3
Informatics Project
Advanced project in informatics. Notes: May be repeated for different project topics, but only three credits will be applied to the student's program. Prerequisites: INF 700 and consent of instructor.

INF 792 Credits 3
Internship
Supervised internship in business, industry, government, or educational institution providing practical experience to use skills and knowledge acquired in informatics and cognate course work. Prerequisites: INF 700 and consent of instructor.

INF 794 Credits 3
Research Methods
Examination of research methods including: the scientific method, sampling, statistics, research design, analytical technique, literature review, technical writing, professional ethics, faculty research areas and potential topics for thesis. Prerequisites: INF 700

INF 795 Credits 1-6
Independent Study in Informatics
INF 797  
**Credits 1-6**

**Master's Thesis**
Research analysis and writing towards completion of Master’s thesis and subsequent defense. **Notes:** May be repeated but no more than 6 credits will be allowed in the degree. **Grading:** S/F grading only  
**Prerequisites:** INF 700 and Instructor consent

INF 799  
**Credits 1 – 6**

**Dissertation Research**
Research analysis and writing towards completion of dissertation and subsequent defense. **Notes:** May be repeated but no more than eighteen credits will be allowed in the degree. **Prerequisites:** Passing the written comprehensive examination.
Mechanical Engineering

Chair
Woosoon, Yim
(1987), Professor; B.S., Hanyang University; M.S., Ph.D. University of Wisconsin.

Graduate Coordinator
Chen, Yi Tung
(1993), Professor; B.S, Feng Chia University; M.S., Ph.D., University of Utah.

Graduate Faculty
Boehm, Robert F.
(1990), Professor; B.S., M.S., Washington State University; Ph.D., University of California, Berkeley; P.E., California.

Culbreth, William G.
(1985), Associate Dean of College of Engineering, Associate Professor; B.S., California State Polytechnic University, Pomona; M.S., Ph.D., University of California, Santa Barbara.

Mauer, Georg F.
(1986), Professor; Diploma-Ingenieur; Ph.D., Technical University of Berlin.

Moujaes, Samir F.
(1984), Professor; B.S., M.S., American University of Beirut; Ph.D., University of Pittsburgh; P.E., Nevada.

O'Toole, Brendan J.
(1992), Associate Professor; B.S., M.S., Ph.D., University of Delaware

Pepper, Darrell W.
(1992), Professor; B.S., M.S., Ph.D., University of Missouri-Rolla.

Reynolds, Douglas D.
(1983), Professor; B.S., Michigan State University; M.S., Ph.D., Purdue University.

Rice, Stephen
(1996), Professor; B.S., M.Engr., Ph.D., University of California, Berkeley.

Trabia, Mohamed
(1987), Professor; B.S., M.S., Alexandria University; Ph.D., Arizona State University

Wang, Zhiyoung
(1998), Associate Professor; B.S., M.S., Ph.D., Harbin University of Science and Technology.

Zhao, Hui
(2009), Assistant Professor; B.S., M.S., Peking University, China; Ph.D., University of Pennsylvania.

Among the subjects taught and researched by the faculty of the mechanical engineering program are the following: aerospace, vibrations and acoustics, heat transfer, fluid flow (and computational fluid dynamics), environmental transport processes, multiphase flow, energy conservation and conversion technologies, alternative energy including solar power, automatic control, robotics, biomedical engineering, nuclear engineering, structural properties of engineering materials, and composites.

Graduate students have access to all departmental laboratories and equipment as well as the facilities of the National Supercomputing Center for Energy and the Environment. The department supports numerous networked workstations.

The laboratories of the department include an extensive acoustics and vibrations facility, a thermal-fluids capability, a full array of mechanical testing machines, measurement and control laboratory, and a low-moderate speed wind tunnel. A unique laboratory also exists for full-scale testing of ducts and diffusers, including indoor air quality and HVAC equipment.

In addition to a recently established material performance laboratory, several faculty members are developing and testing different designs of solar power generators.
Programs

- Mechanical Engineering: Integrated B.S.-M.S. Program
  - This program is for UNLV undergraduate students only and applies only to the Master of Science programs listed below.
- Aerospace Engineering M.S.A.E.
- Biomedical Engineering M.S.B.E.
- Materials & Nuclear Engineering M.S.M.N.E.
- Mechanical Engineering M.S.E.
- Mechanical Engineering Ph.D.

Admission Requirements

In addition to the general requirements for admission to the Graduate College, an applicant for the M.S. program must complete the following requirements:

1. Applicants must complete the on-line process in the “Apply Yourself (AY)” system.
2. In addition to the required information in the general AY application system, the Mechanical Engineering Department has two additional requirements which can also be submitted in the AY system as optional items. Electronic submission is the preferred method. If these items are not completed in the AY system before you finish and make payment, you cannot go back and do them electronically afterwards. In this case, you must mail hardcopies to the Mechanical Engineering Department. The two items are:
   a. Submit a written statement of purpose indicating interests and objectives in working toward a M.S. degree.
   b. Submit 2 letters of recommendation for M.S. applicants (3 letters for Ph.D. applicants). There is no specified format. Your references should point out the qualifications that make you a good candidate for admission.
3. The applicant must have a bachelor’s degree in engineering or a closely related discipline. Students with non-engineering backgrounds will be required to complete a set of course work requirements that will assure successful completion of the M.S. specialization and qualify the student to sit for the Fundamentals of Engineering (FE) exam. The Graduate Program Committee (GPC) will decide upon special cases.
4. Foreign applicants must submit proof of English proficiency if you are from a country where English is not the native
language. Acceptable documents include: TOEFL scores of either 550 (written), 213 (computerized), or 80 (internet based); MTELP of 85, IELTS of 7, or PTE of 65. The TOEFL university code for UNLV is 4861.

5. You must submit official copies of Graduate Record Examination (GRE) test scores. The ME department does not have a minimum required GRE score. However, most of the students admitted to our programs have over a 650 on the quantitative section and over a 400 on the verbal section. These are NOT minimum requirements. The GRE university code for UNLV is 4861, the Mechanical Engineering Department Code is 1502.

6. The GPC will examine the applicant’s academic record and will make the final determination of the applicant’s admissibility to the M.S. program. In general, a minimum post baccalaureate GPA of 3.00 on a 4.00 scale or equivalent is required for admission in addition to a GPA of 3.00 on a 4.00 scale or equivalent in all engineering courses. The UNLV Graduate College must formally admit the applicant.

Our department admissions committee looks at all of these requirements when making admissions decisions.

**Degree Requirements**

Procedures and requirements for the M.S.A.E. will be prescribed by the Graduate College under Academic Policies, with additional provisions as follows:

1. Students pursuing the engineering management option are required to choose the Non-Thesis Option listed below. Students pursuing options other than the engineering management option may choose, subject to approval by the student’s graduate committee, one of the two options listed below.

   - **Thesis Option:** Requires 24 credits of approved graduate courses plus six credits of work associated with the master’s level thesis, for a total of 30 credits. The final examination will include a defense of thesis.
   - **Non-Thesis Option:** Requires 33 credits of approved graduate courses. At least 18 credits must be earned from 700-level courses, of which 15 credits must be in engineering.

2. Satisfactory progress is defined as filing an approved program before the completion of nine credits of course work, completion of at least six credits of the approved program per calendar year, maintenance of a GPA of 3.00 (4.00 scale), no grades below C, (C- is not acceptable) and compliance with the letter and spirit of the Graduate Catalog and published policies of the Howard R. Hughes College of Engineering. If progress is not satisfactory, probation and separation may result, in accordance with the rules of the Graduate College. Any student whose GPA falls below 3.00 will be placed on probation and will have one semester to raise it to 3.00 or above.

3. Only those courses in which a student received a grade of C or better may be used for graduate credit. Students must comply with Graduate College policy.

4. Each student’s program should show suitable breadth and coherence. As specified in the Graduate Catalog, the program of study will be developed by the student and advisor and filed with the Graduate College. Prior to filing, the program must receive approval by the student’s committee. An approved program must be filed before the completion of nine credits of course work after admission (regular or provisional). The responsibility rests with the student. Students will be dropped from the graduate engineering program if they neglect this requirement.
Students must choose three courses from the following list of courses
- ME 700 - Advanced Fluid Mechanics I
- ME 701 - Advanced Fluid Mechanics II
- ME 702 - Computational Fluid Dynamics
- ME 705 - Conduction Heat Transfer
- ME 706 - Convective Heat Transfer
- ME 740 - Advanced Dynamics
- ME 741 - Energy and Variational Methods in Applied Mechanics I

In addition students must select at least two courses selected from the following list
- ME 704 - Finite Element Applications in Mechanical Engineering
- ME 711 - Advanced Thermodynamics
- ME 717 - Transport Phenomena
- ME 720 - Acoustics I
- ME 721 - Acoustics II
- ME 725 - Vibrations I
- ME 726 - Vibrations II
- ME 729 - Advanced Robotics
- ME 774 - Introduction to Theory of Elasticity and Plasticity I
- ME 777 - Application of High-Performance Computing Methods in Science and Engineering

Biomedical Engineering
M.S.B.E.

The objective of the M.S.B.E. degree program is to provide a graduate-level educational experience that will prepare individuals to undertake design and research in the area of biomedical engineering. The program is multidisciplinary and integrates knowledge from the traditional engineering sciences, the life sciences, and medicine. Specific goals of the program include development of 1.) a thorough grounding in the life sciences; 2.) mastery of engineering tools and approaches; 3.) familiarity with the problems of making and interpreting quantitative measurements of living systems; 4.) the ability to use modeling techniques; and 5.) the ability to formulate and solve problems with medical relevance, including the design of devices, systems, and processes to improve human health.

Students are required to take a common core of introductory biomedical engineering and health science courses plus courses in at least one of the three following areas: 1.) biomechanics, ergonomics, and human factors; 2.) imaging and instrumentation; or 3.) fluid mechanics and transport processes.

Admission Requirements
In addition to the general requirements for admission to the Graduate College, an applicant for the M.S. program must complete the following requirements:

1. Applicants must complete the on-line process in the “Apply Yourself (AY)” system.
2. In addition to the required information in the general AY application system, the Mechanical Engineering Department has two additional requirements which can also be submitted in the AY system as optional items. Electronic submission is the preferred method. If these items are not completed in the AY system before you finish and make payment, you cannot go back and do them electronically afterwards. In this case, you must mail hardcopies to the Mechanical Engineering Department. The two items are:
   a. Submit a written statement of purpose indicating interests and objectives in working toward a M.S. degree.
   b. Submit 2 letters of recommendation for M.S. applicants (3 letters for Ph.D. applicants). There is no specified format. Your references should point out the qualifications that make you a good candidate for admission.

3. The applicant must have a bachelor’s degree in engineering or a closely related discipline. Students with non-engineering backgrounds will be required to complete a set of course work requirements that will assure successful completion of the M.S. specialization and qualify the student to sit for the Fundamentals of Engineering (FE)
exam. The Graduate Program Committee (GPC) will decide upon special cases.

4. Foreign applicants must submit proof of English proficiency if you are from a country where English is not the native language. Acceptable documents include: TOEFL scores of either 550 (written), 213 (computerized), or 80 (internet based); MTEL of 85, IELTS of 7, or PTE of 65. The TOEFL university code for UNLV is 4861.

5. You must submit official copies of Graduate Record Examination (GRE) test scores. The ME department does not have a minimum required GRE score. However, most of the students admitted to our programs have over a 650 on the quantitative section and over a 400 on the verbal section. These are NOT minimum requirements. The GRE university code for UNLV is 4861, the Mechanical Engineering Department Code is 1502.

6. The GPC will examine the applicant’s academic record and will make the final determination of the applicant’s admissibility to the M.S. program. In general, a minimum post baccalaureate GPA of 3.00 on a 4.00 scale or equivalent is required for admission in addition to a GPA of 3.00 on a 4.00 scale or equivalent in all engineering courses.

7. The UNLV Graduate College must formally admit the applicant. Our department admissions committee looks at all of these requirements when making admissions decisions.

**Degree Requirements**

Procedures and requirements for the M.S.B.E. will be prescribed by the Graduate College under Academic Policies, with additional provisions as follows:

1. At least 15 credits must be from 700-level courses, and at least 15 credits must be from engineering courses. Students are required to take a common core of introductory biomedical engineering and health science courses plus courses in an area of specialization. The areas of specialization include 1) transport processes, 2) Imaging and Instrumentation, 3) biomechanics and human factors and:

**Biomedical Sciences Core**

All students must take at least two of the courses below (note that courses numbered below 600 do not count toward the hours required for the M.S.B.E. degree).

- BIO 209 Introduction to Cell Biology
- BIO 360 Mammalian Physiology
- CHE 225 Organic Chemistry I
- BIOL 730A-D - Special Lectures in Life Sciences
- KIN 738 - Human Physiology

**Transport Processes Option (T)**

Students in this option must take at least three courses from the following list:

- KIN 744 - Thermoregulation During Physical Work
- ME 616 - Introduction to Biomechanical Engineering
  or
  ME 416 Introduction to Bioengineering (T1)

- ME 700 - Advanced Fluid Mechanics I
- ME 702 - Computational Fluid Dynamics
- ME 704 - Finite Element Applications in Mechanical Engineering
- ME 706 - Convective Heat Transfer
- ME 710 - Transport Phenomena in Bioengineering
- ME 711 - Advanced Thermodynamics

**Imaging and Instrumentation Option (I)**

Students in this option must take at least three courses from the following list:

- CS 669 - Introduction to Digital Image Processing
- ECG 456 Introduction to Biomedical Signals & Systems (I1)
  or
  ECG 656 Introduction to Biomedical Signals & Systems (I1)
• ECG 731 - Theoretical Techniques in Electromagnetics
• ECG 732 - Advanced Engineering Electromagnetics II
• ECG 751 - Optical Electronics II
• ECG 752 - Physical Electronics
• ECG 753 - Advanced Topics in Semiconductor Devices I
• ECG 756 - Advanced Topics in Semiconductor Devices II
• ECG 758 - Numerical Methods in Engineering

• ME 670 - Experimental Mechanics of Materials
• ME 703 - Continuum Mechanics
• ME 725 - Vibrations I
• ME 726 - Vibrations II
• ME 727 - Engineering Optimization
• ME 729 - Advanced Robotics
• ME 746 - Experimental Design and Analysis of Digital Process Control Systems
• ME 740 - Advanced Dynamics
• ME 741 - Energy and Variational Methods in Applied Mechanics I
• ME 742 - Energy and Variational Methods in Applied Mechanics II

**Biomechanics and Human Factors Option (B)**

Students in this option must take at least three courses from the following list:

- ME 616 - Introduction to Biomechanical Engineering
- CEE 678 - Applied Finite Element Analysis
- CEE 767 - Human Factors in Transportation Engineering
- CEE 774 - Introduction to Theory of Elasticity and Plasticity I
  or
- ME 774 - Introduction to Theory of Elasticity and Plasticity I
- CEE 776 - Experimental Techniques in Structural Mechanics
- EGG 651 - Ergonomics
- KIN 736 - Biomechanical Applications in Kinesiology
- KIN 743 - Research Techniques in Biomechanics
- ME 625 - Robotics
- ME 653 - Mechanical Vibrations
- ME 643 - Design Techniques in Mechanical Engineering
- ME 646 - Composite Materials

**Additional Degree Requirements**

2. Students may choose, subject to approval by the student’s graduate committee, one of the two options listed below:

**Thesis Option:** Requires 24 credits of approved graduate courses plus six credits of work associated with the master’s level thesis, for a total of 30 credits. The final examination will include a defense of thesis.

**Non-Thesis Option:** Requires 33 credits of approved graduate courses. At least 18 credits must be earned from 700-level courses, of which 15 credits must be in engineering.

3. Satisfactory progress is defined as filing an approved program before the completion of nine credits of course work, completion of at least six credits of the approved program per calendar year, maintenance of a GPA of 3.00 (4.00 scale), no grades below C, (C- is not acceptable) and compliance with the letter and spirit of the Graduate Catalog and published policies of the Howard R. Hughes College of Engineering. If progress is not satisfactory, probation and separation may result, in accordance with the rules of the Graduate College. Any student whose GPA falls below 3.00 will be placed on probation and will have one semester to raise it to 3.00 or above.

4. Only those courses in which a student received a grade of C or better may be used...
for graduate credit. Students must comply with Graduate College policy.

5. Each student’s program should show suitable breadth and coherence. As specified in the Graduate Catalog, the program of study will be developed by the student and advisor and filed with the Graduate College. Prior to filing, the program must receive approval by the student’s committee. An approved program must be filed before the completion of nine credits of course work after admission (regular or provisional). The responsibility rests with the student. Students will be dropped from the graduate engineering program if they neglect this requirement.

Materials & Nuclear Engineering M.S.M.N.E.

M.S.M.N.E. is intended to provide the student with a solid background in either applied nuclear science and engineering, with an emphasis in used fuel management, criticality, or radiation detection, or material science and engineering, with an emphasis in materials performance. The program consists of two master’s degree tracks: Materials Engineering and Nuclear Engineering. The materials engineering track consists of a core curriculum in material science, metallurgy, and materials performance, which is to be augmented by advanced-level classes in corrosion engineering, physical metallurgy, mechanical metallurgy, mechanics of materials, and nuclear materials. The nuclear engineering track consists of a core curriculum in applied nuclear science and engineering, coupled with advanced classes in the student’s subdiscipline.

Admission Requirements

In addition to the general requirements for admission to the Graduate College, an applicant for the M.S. in Materials and Nuclear Engineering program must complete the following requirements:

1. Applicants must complete the on-line process in the “Apply Yourself (AY)” system.

2. In addition to the required information in the general AY application system, the Mechanical Engineering Department has two additional requirements which can also be submitted in the AY system as optional items. Electronic submission is the preferred method. If these items are not completed in the AY system before you finish and make payment, you cannot go back and do them electronically afterwards. In this case, you must mail hardcopies to the Mechanical Engineering Department. The two items are:
   a. Submit a written statement of purpose indicating interests and objectives in working toward a M.S. degree.
   b. Submit 2 letters of recommendation for M.S. applicants (3 letters for Ph.D. applicants). There is no specified format. Your references should point out the qualifications that make you a good candidate for admission.

3. The applicant must have a bachelor’s degree in engineering or a closely related discipline. Students with non-engineering backgrounds will be required to complete a set of course work requirements that will assure successful completion of the M.S. specialization and qualify the student to sit for the Fundamentals of Engineering (FE) exam. The Graduate Program Committee (GPC) will decide upon special cases.

4. Foreign applicants must submit proof of English proficiency if you are from a country where English is not the native language. Acceptable documents include: TOEFL scores of either 550 (written), 213 (computerized), or 80 (internet based); MTELP of 85, IELTS of 7, or PTE of 65. The TOEFL university code for UNLV is 4861.
5. You must submit official copies of Graduate Record Examination (GRE) test scores. The ME department does not have a minimum required GRE score. However, most of the students admitted to our programs have over a 650 on the quantitative section and over a 400 on the verbal section. These are NOT minimum requirements. The GRE university code for UNLV is 4861, the Mechanical Engineering Department Code is 1502.

6. The GPC will examine the applicant’s academic record and will make the final determination of the applicant’s admissibility to the M.S. program. In general, a minimum post baccalaureate GPA of 3.00 on a 4.00 scale or equivalent is required for admission in addition to a GPA of 3.00 on a 4.00 scale or equivalent in all engineering courses.

7. The UNLV Graduate College must formally admit the applicant.

Our department admissions committee looks at all of these requirements when making admissions decisions.

Degree Requirements

Procedures and requirements for the M.S. degree will be prescribed by the Graduate College under Academic Policies, with additional provisions as follows:

1. At least 15 credits must be from 700-level courses and six credits of thesis are required. The remaining nine credits may be taken at the 600 or 700 level.

2. Students must choose one of the following tracks:

   a. Materials Engineering Track - Students must take three out of the following four courses
      - ME 734 - Fracture of Engineering Materials
      - ME 732 - Mechanical Metallurgy
      - ME 741 - Energy and Variational Methods in Applied Mechanics I
      - ME 630 - Corrosion Engineering

   b. Nuclear Engineering – For the Nuclear Engineering Track, students must take three out of the following courses
      - PHYS 631 - Nuclear and Elementary Particle Physics
      - ME 646 - Composite Materials
      - ME 670 - Experimental Mechanics of Materials

   Suggested Electives for Materials Engineering Track
   - ME 742 - Energy and Variational Methods in Applied Mechanics II
   - ME 650 - Physical Metallurgy
   - ME 646 - Composite Materials
   - ME 670 - Experimental Mechanics of Materials

   Suggested Electives for Nuclear Engineering Track
   - ME 702 - Computational Fluid Dynamics
   - ME 705 - Conduction Heat Transfer
   - ME 707 - Radiation Heat Transfer
   - ME 708 - Convective Boiling and Condensation
   - ME 711 - Advanced Thermodynamics
   - ME 615 - Design of Thermal Systems

Additional Degree Requirements

3. Students may choose, subject to approval by the student’s graduate committee, one of the two options listed below:
   O Thesis Option: Requires 24 credits of approved graduate courses plus six credits of work associated with the master’s level thesis, for a total of 30 credits. The final examination will include a defense of thesis.
   O Non-Thesis Option: Requires 33 credits of approved graduate courses. At least 18 credits must be earned from 700-level courses, of which 15 credits must be in engineering.
4. Satisfactory progress is defined as filing an approved program before the completion of nine credits of course work, completion of at least six credits of the approved program per calendar year, maintenance of a GPA of 3.00 (4.00 scale), no grades below C, (C- is not acceptable) and compliance with the letter and spirit of the Graduate Catalog and published policies of the Howard R. Hughes College of Engineering. If progress is not satisfactory, probation and separation may result, in accordance with the rules of the Graduate College. Any student whose GPA falls below 3.00 will be placed on probation and will have one semester to raise it to 3.00 or above.

5. Only those courses in which a student received a grade of C or better may be used for graduate credit. Students must comply with Graduate College policy.

6. Each student’s program should show suitable breadth and coherence. As specified in the Graduate Catalog, the program of study will be developed by the student and advisor and filed with the Graduate College. Prior to filing, the program must receive approval by the student’s committee. An approved program must be filed before the completion of nine credits of course work after admission (regular or provisional). The responsibility rests with the student. Students will be dropped from the graduate engineering program if they neglect this requirement.

**Mechanical Engineering M.S.E.**

The Master of Science degree is designed to give post baccalurate students a broad understanding of the mechanical engineering field while providing some depth in a specific option area. Option areas include Dynamic Systems and Controls, Fluid and Thermal Sciences, Materials and Mechanics, Engineering Management, Mechanical and Environmental Systems, Nuclear Engineering, and Aerospace Engineering. Applicants who choose the M.S.E. program usually have an interest in more than one aspect of Mechanical Engineering. They are interested in gaining research and/or design experience to become better prepared for the workforce or further graduate study. Graduates from the program have gone to work in a broad range of industries including automotive, aerospace, nuclear, energy, oil, entertainment, HVAC, defense, utilities, and manufacturing. Graduates have also enrolled in some of the top Ph.D. programs in the country.

**Admission Requirements**

In addition to the general requirements for admission to the Graduate College, an applicant for the M.S. program must complete the following requirements:

1. Applicants must complete the on-line process in the "Apply Yourself (AY)" system.

2. In addition to the required information in the general AY application system, the Mechanical Engineering Department has two additional requirements which can also be submitted in the AY system as optional items. Electronic submission is the preferred method. If these items are not completed in the AY system before you finish and make payment, you cannot go back and do them electronically afterwards. In this case, you must mail hardcopies to the Mechanical Engineering Department. The two items are:
   a. Submit a written statement of purpose indicating interests and objectives in working toward a M.S. degree.
   b. Submit 2 letters of recommendation for M.S. applicants (3 letters for Ph.D. applicants). There is no specified format. Your references should point out the qualifications that make you a good candidate for admission.

3. The applicant must have a bachelor’s degree in engineering or a closely related discipline. Students with non-engineering backgrounds will be required to complete a set of course
work requirements that will assure successful completion of the M.S. specialization and qualify the student to sit for the Fundamentals of Engineering (FE) exam. The Graduate Program Committee (GPC) will decide upon special cases.

4. Foreign applicants must submit proof of English proficiency if you are from a country where English is not the native language. Acceptable documents include: TOEFL scores of either 550 (written), 213 (computerized), or 80 (internet based); MTEL of 85, IELTS of 7, or PTE of 65. The TOEFL university code for UNLV is 4861.

5. You must submit official copies of Graduate Record Examination (GRE) test scores. The ME department does not have a minimum required GRE score. However, most of the students admitted to our programs have over 650 on the quantitative section and over a 400 on the verbal section. These are NOT minimum requirements. The GRE university code for UNLV is 4861, the Mechanical Engineering Department Code is 1502.

6. The GPC will examine the applicant’s academic record and will make the final determination of the applicant’s admissibility to the M.S. program. In general, a minimum post baccalaureate GPA of 3.00 on a 4.00 scale or equivalent is required for admission in addition to a GPA of 3.00 on a 4.00 scale or equivalent in all engineering courses.

7. The UNLV Graduate College must formally admit the applicant.

Our department admissions committee looks at all of these requirements when making admissions decisions.

**Degree Requirements**

Procedures and requirements for the M.S. will be prescribed by the Graduate College under Academic Policies, with additional provisions as follows:

1. At least 15 credits must be from 700-level courses, and at least 15 credits must be from engineering courses. Students must choose one of the following options and take at least three of the courses listed under each respective option:

   **a. Dynamic Systems and Controls**
   - ME 625 - Robotics
   - ME 629 - Computer Control of Machines and Processes
   - ME 653 - Mechanical Vibrations
   - ME 725 - Vibrations I
   - ME 726 - Vibrations II
   - ME 729 - Advanced Robotics
   - ME 740 - Advanced Dynamics
   - ME 741 - Energy and Variational Methods in Applied Mechanics I
   - ME 746 - Experimental Design and Analysis of Digital Process Control Systems

   **b. Fluid/Thermosciences**
   - ME 700 - Advanced Fluid Mechanics I
   - ME 701 - Advanced Fluid Mechanics II
   - ME 702 - Computational Fluid Dynamics
   - ME 703 - Continuum Mechanics
   - ME 704 - Finite Element Applications in Mechanical Engineering
   - ME 705 - Conduction Heat Transfer
   - ME 706 - Convective Heat Transfer
   - ME 707 - Radiation Heat Transfer
   - ME 708 - Convective Boiling and Condensation
   - ME 710 - Transport Phenomena in Bioengineering
   - ME 711 - Advanced Thermodynamics
   - ME 714 - Computational Aspects of Solar Energy
   - ME 717 - Transport Phenomena

   **c. Materials and Mechanics**
   - ME 641 - Advanced Mechanical Engineering Design
   - ME 643 - Design Techniques in Mechanical Engineering
   - ME 646 - Composite Materials
   - ME 732 - Mechanical Metallurgy
   - ME 734 - Fracture of Engineering Materials
   - ME 742 - Energy and Variational Methods in Applied Mechanics II
   - ME 741 - Energy and Variational Methods in Applied Mechanics I
d. Engineering Management
- CEE 609 - Engineering Project Management
- MBA 702 - Statistical Analysis
- MBA 706 - Law, Regulations and Ethical Issues
- MBA 707 - Organizational Behavior
- MBA 710 - Applied Economic Analysis
- MBA 715 - Market Opportunity Analysis
- ME 626 - Manufacturing Processes
- ME 727 - Engineering Optimization
- ME 701 - Advanced Fluid Mechanics II

e. Mechanical and Environmental Systems
- ME 618 - Air Conditioning Engineering Systems
- ME 653 - Mechanical Vibrations
- ME 634 - Noise Control
- ME 700 - Advanced Fluid Mechanics I
- ME 706 - Convective Heat Transfer
- ME 720 - Acoustics I
- ME 725 - Vibrations I
- ME 726 - Vibrations II
- ME 721 - Acoustics II

f. Nuclear Engineering
- ME 630 - Corrosion Engineering
- ME 655 - Fundamentals of Nuclear Engineering
- ME 656 - Radioactive Waste Management
- ME 705 - Conduction Heat Transfer
- ME 706 - Convective Heat Transfer
- ME 707 - Radiation Heat Transfer
- ME 708 - Convective Boiling and Condensation

2. Students pursuing the engineering management option are required to choose the Non-Thesis Option listed below. Students pursuing options other than the engineering management option may choose, subject to approval by the student’s graduate committee, one of the two options listed below.

**Thesis Option:** Requires 24 credits of approved graduate courses plus six credits of work associated with the master’s level thesis, for a total of 30 credits. The final examination will include a defense of thesis.

**Non-Thesis Option:** Requires 33 credits of approved graduate courses. At least 18 credits must be earned from 700-level courses, of which 15 credits must be in engineering.

3. Satisfactory progress is defined as filing an approved program before the completion of nine credits of course work. Completion of at least six credits of the approved program per calendar year, maintenance of a GPA of 3.00 (4.00 scale), no grades below C, (C- is not acceptable) and compliance with the letter and spirit of the *Graduate Catalog* and published policies of the Howard R. Hughes College of Engineering. If progress is not satisfactory, probation and separation may result, in accordance with the rules of the Graduate College. Any student whose GPA falls below 3.00 will be placed on probation and will have one semester to raise it to 3.00 or above.

4. Only those courses in which a student received a grade of C or better may be used for graduate credit. Students must comply with Graduate College policy.

5. Each student’s program should show suitable breadth and coherence. As specified in the *Graduate Catalog*, the program of study will be developed by the student and advisor and filed with the Graduate College. Prior to filing, the program must receive approval by the student’s committee. An approved program must be filed before the completion of nine credits of course work.

Additional Degree Requirements
after admission (regular or provisional). The responsibility rests with the student. Students will be dropped from the graduate engineering program if they neglect this requirement.

Mechanical Engineering Ph.D.

Admission Requirements

In order to be admitted to the Ph.D. program in Engineering in the field of Mechanical Engineering, a student must complete the following requirements:

1. Application must be made to the Department of Mechanical Engineering. Applications must include all documentation as required by the Graduate College. The Department of Mechanical Engineering will admit the student and supervise the student’s Ph.D. program.

2. The applicant must have a Master of Science in Engineering degree or equivalent with a major in mechanical engineering or a closely allied field. Students with nonengineering backgrounds will be required to complete a set of course work requirements that will assure successful completion of the Ph.D. specialization and qualify the student to sit for the Fundamentals of Engineering (FE) exam. The Graduate Program Committee (GPC) will decide upon special cases.

3. The applicant must submit a written statement of purpose indicating interests and objectives in working toward a Ph.D. degree. In addition, three letters of recommendation for the Ph.D.-level study must be submitted. The statement and letters should be sent to the department.

4. Foreign applicants must take and obtain a satisfactory score of a minimum of 550 (213 computerized) on the TOEFL exam as required by the Graduate College.

5. The GPC will examine the applicant’s academic record and will make the final determination of the applicant’s admissibility to the Ph.D. program. In general, a minimum post baccalaureate GPA of 3.20 on a 4.00 scale or equivalent is required for admission.

6. The applicant must obtain satisfactory scores on the Graduate Record Exam (GRE) as determined by the GPC.

7. The UNLV Graduate College must formally admit the applicant.

Degree Requirements

The degree requirements for the Ph.D. in Engineering in the field of Mechanical Engineering include the following:

1. A Doctoral Advisory Committee composed of at least five members of the UNLV graduate faculty is to be formed for the student. Three of these faculty must be from the Department of Mechanical Engineering, the fourth from a relevant supporting field, and a fifth as appointed by the Graduate College.

2. The program of study must be submitted by the second semester of study. The program of study is to be prepared by the student and his/her doctoral advisor, and must be approved by the student’s Doctoral Advisory Committee and the GPC.

3. Doctoral students must complete a minimum of 21 credit hours of course work beyond the degree of Master of Science in Engineering (M.S.) or equivalent. A minimum of 18 of these credits must be 700-level courses. The student’s Doctoral Advisory Committee may add other requirements in accordance with the individual’s background and area of study. All Ph.D. candidates must maintain a minimum overall grade point average (GPA) of 3.20 and a minimum GPA of 3.20 each semester. Ph.D. candidates who do not maintain an overall GPA of 3.20 and a GPA of 3.20 each semester will be placed on probation.

4. In addition to these course requirements, a minimum of 18 credits of Dissertation Research: ME 799 - Dissertation is also required.
5. In order to show breadth and depth of knowledge in his/her discipline, the doctoral student must pass either a written qualifying exam, or an oral qualifying exam, or both as determined by the student’s Doctoral Advisory Committee. Each student must choose one of the following areas as a major and another as a minor: Dynamics and Control, Fluid Mechanics, Material Science, Solid Mechanics and Mechanical Design, and Thermal Sciences. In addition, all students will be tested in Mathematics. These examinations are on the undergraduate senior level. They are prepared by the department. Qualifying exams are held every semester. The qualifying exams must be scheduled during the first year of study. The qualifying exam can be taken a maximum of two times. Failure to take the exam within the first year or failure to pass the exam in the second attempt will automatically result in terminating student from the program.

6. The doctoral student must pass a preliminary exam consisting of a written proposal for the dissertation research, followed by an oral defense of the proposal. The Doctoral Advisory Committee must approve the dissertation research proposal. The student is advanced to candidacy for the Ph.D. upon completion of all course work and approval of the dissertation before the Doctoral Advisory Committee.

7. All requirements for the Ph.D. are met upon the satisfactory completion of the proposed research, the submission of a satisfactory dissertation, and the successful oral defense of the dissertation before the Doctoral Advisory Committee.

ME 600  
Intermediate Fluid Mechanics  
This advanced undergraduate course is available for graduate credit.

ME 602  
Computational Methods for Engineers  
This advanced undergraduate course is available for graduate credit.

ME 611  
Engineering Thermodynamics II  
This advanced undergraduate course is available for graduate credit.

ME 615  
Design of Thermal Systems  
This advanced undergraduate course is available for graduate credit.

ME 616  
Introduction to Biomechanical Engineering  
This advanced undergraduate course is available for graduate credit.

ME 617  
Introduction to Fuel Cell  
Credits 3  
Prerequisites: ME 311, ME 314, ME 380.

ME 618  
Air Conditioning Engineering Systems  
This advanced undergraduate course is available for graduate credit.

ME 619  
Advanced HVAC and Energy Conservation Systems  
This advanced undergraduate course is available for graduate credit.

ME 625  
Robotics  
This advanced undergraduate course is available for graduate credit.

ME 626  
Manufacturing Processes  
This advanced undergraduate course is available for graduate credit.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
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<tbody>
<tr>
<td>ME 627</td>
<td>Manufacturing Systems</td>
<td>This advanced undergraduate course is available for graduate credit.</td>
</tr>
<tr>
<td>ME 629</td>
<td>Computer Control of Machines and Processes</td>
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<tr>
<td>ME 630</td>
<td>Corrosion Engineering</td>
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<tr>
<td>ME 634</td>
<td>Noise Control</td>
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<tr>
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<td>ME 650</td>
<td>Physical Metallurgy</td>
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<td>ME 650L</td>
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<td>ME 653</td>
<td>Physical Metallurgy Laboratory</td>
<td>This advanced undergraduate course is available for graduate credit.</td>
</tr>
<tr>
<td>ME 655</td>
<td>Fundamentals of Nuclear Engineering</td>
<td>This advanced undergraduate course is available for graduate credit.</td>
</tr>
<tr>
<td>ME 656</td>
<td>Radioactive Waste Management</td>
<td>This advanced undergraduate course is available for graduate credit.</td>
</tr>
<tr>
<td>ME 660</td>
<td>High School Mentoring for Engineering Design</td>
<td>Students help high school teams design robots for the FIRST robotics competition. Weekly meetings discuss: mentoring, design, robotics, organizational skills, and team work. Must arrange transport to assigned local high school. Class begins with the international FIRST kick-off meeting usually scheduled for the first Saturday after New Year's Day. <strong>Prerequisites</strong>: Instructor Consent</td>
</tr>
<tr>
<td>ME 662</td>
<td>Vehicle Design Projects</td>
<td>Students design and build a vehicle for entry into a national or regional collegiate competition such as Mini-Baja or Human Powered Vehicle. Design topics may include structural analysis, composite materials, aerodynamics, engine performance, occupant safety, drive train, suspension systems, project management, team building, technical report writing, and oral presentations. <strong>Prerequisites</strong>: Instructor Consent</td>
</tr>
<tr>
<td>ME 670</td>
<td>Experimental Mechanics of Materials</td>
<td>This advanced undergraduate course is available for graduate credit.</td>
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</tbody>
</table>
ME 680
Gas Dynamics I
This advanced undergraduate course is available for graduate credit.

ME 682
Aerodynamics
This advanced undergraduate course is available for graduate credit.

ME 695
Special Topics in Engineering
This advanced undergraduate course is available for graduate credit.

ME 700 Credits 3
Advanced Fluid Mechanics I
Covers area of viscous laminar fluid flow. Presents concept of shear stresses and develops Navier-Stokes equation. Applications such as boundary layer flow studied as are some solutions of viscous fluid flow. Prerequisites: Graduate Standing or Instructor Consent

ME 701 Credits 3
Advanced Fluid Mechanics II
Potential flow theory with emphasis on complex representations, conformal mapping, Schwarz Christoffel transformations, airfoils. Compressible flow, free shear layers, shock waves, compressible boundary layers, two- and three-dimensional supersonic flows. Prerequisites: ME 700 or consent of instructor.

ME 702 Credits 3
Computational Fluid Dynamics
Application of numerical methods to solve highly nonlinear equations of motion and energy associated with fluid dynamics. Among other methods, finite difference and finite element methods discussed along with use of commercial software packages. Prerequisites: Graduate Standing or Instructor Consent

ME 703 Credits 3
Continuum Mechanics
Matrices and tensors, stress deformation and flow, compatibility conditions, constitutive equations, field equations and boundary conditions in fluids and solids, applications in solid and fluid mechanics. Prerequisites: Graduate Standing or Instructor Consent

ME 704 Credits 3
Finite Element Applications in Mechanical Engineering
Finite Element Method used historically for structurally related problems. Advances in application and development of Finite Element Method particularly useful in fluid flow and heat transfer related problems. PC, workstation, and mainframe finite element computer codes used to assist students in solving fluid and heat transfer problems. Prerequisites: Graduate Standing or Instructor Consent

ME 705 Credits 3
Conduction Heat Transfer
Designed to solve more advanced heat transfer problems by conduction. Analytical and numerical techniques in heat conduction covered. Review of elementary problems presented. Advanced analytical methods using Bessel functions, separation of variables and Laplace transforms, among others. Solutions using finite differences covered. Prerequisites: ME 314 and ME 445 or equivalent or consent of instructor.

ME 706 Credits 3
Convective Heat Transfer
Conservation principles, fluid stresses and flux laws, boundary layer equation, laminar and turbulent heat flow inside tubes. Heat transfer in laminar and turbulent boundary layers. Influence of temperature dependent fluid properties and free-convection boundary layers. Prerequisites: Graduate Standing or Instructor Consent

ME 707 Credits 3
Radiation Heat Transfer
Advanced engineering analysis of thermal radiation heat transfer. Spectral and gray-body analysis. Exchange of radiation between surfaces and through
absorbing, emitting, and scattering media. Radiation combined with conduction and convection. **Prerequisites:** Graduate Standing or Instructor Consent

**ME 708**  
**Credits 3**  
**Convective Boiling and Condensation**  
Basic models, empirical treatments of two-phase flow. Introduction to convective boiling, subcooled boiling, void fraction and pressure drop in subcooled boiling, saturated boiling heat transfer, critical heat flux, condensation. **Prerequisites:** Graduate Standing or Instructor Consent

**ME 710**  
**Credits 3**  
**Transport Phenomena in Bioengineering**  
Transport phenomena in bioengineering at molecular, cellular and tissue levels. Topics include blood flow in large and small vessels, gas exchange in lung, biomass and heat transfer in microcirculation, ion transport across cell membrane, cell migration, renal transport, controlled drug delivery and transport in tumors. **Prerequisites:** Graduate Standing or Instructor Consent

**ME 711**  
**Credits 3**  
**Advanced Thermodynamics**  
Advanced concepts and laws of classical equilibrium thermodynamics as applied to engineering problems. Introduction to statistical thermodynamics. **Prerequisites:** Graduate Standing or Instructor Consent

**ME 714**  
**Credits 3**  
**Computational Aspects of Solar Energy**  
Theory and practice in the design of solar energy components and systems. Included are collectors, concentrators, receivers, storage, and power systems. Emphasis is on the simulation of transient systems. **Prerequisites:** Graduate Standing or Instructor Consent

**ME 717**  
**Credits 3**  
**Transport Phenomena**  
Momentum, energy, and mass transport at molecular motion, microscopic levels. Momentum flux tensors, heat flux vectors, and mass flux vectors. Transport in laminar or turbulent flow. Transport in isothermal or nonisothermal systems. Transport in single or multicomponent systems. Interface transport and chemical reaction. **Prerequisites:** Graduate Standing or Instructor Consent

**ME 720**  
**Credits 3**  
**Acoustics I**  
Introduction to wave motion and general solution techniques associated with wave equation; propagation of waves in solid media; one-dimensional acoustic waves, acoustic transmission phenomena, and propagation of sound outdoors. **Prerequisites:** Graduate Standing or Instructor Consent

**ME 721**  
**Credits 3**  
**Acoustics II**  
Three-dimensional sound waves; experimental measurement techniques associated with acoustics; acoustic filter theory; other advanced topics in acoustics. **Prerequisites:** ME 720

**ME 725**  
**Credits 3**  
**Vibrations I**  
Vibrations of systems with one-degree-of-freedom and more than one-degree-of-freedom. Methods for finding natural frequencies, discrete systems and continuous systems. **Prerequisites:** Graduate Standing or Instructor Consent

**ME 726**  
**Credits 3**  
**Vibrations II**  
Virtual work, Hamilton's principles, Lagrange's equation, influence coefficients, Green's function as applied to advanced vibration problems; vibration of continuous systems; modal analysis. **Prerequisites:** Graduate standing and ME 725.

**ME 727**  
**Credits 3**  
**Engineering Optimization**  
Introduction to optimization, univariate functions, multivariate functions, constrained optimality criteria, penalty method, constrained direct search, engineering case studies, linear programming. **Prerequisites:** Graduate Standing or Instructor Consent
ME 729  Credits 3
Advanced Robotics
In-depth study of advanced automation concepts and robotic manipulators. Topics including 3-D kinematics, trajectory generation, compliance analysis, dynamic control of robotics along with concept of assembly operations and machine vision. Prerequisites: Graduate Standing or Instructor Consent

ME 732  Credits 3
Mechanical Metallurgy
Behavior and response of metals to applied forces. Five areas covered: mechanical fundamentals, metallurgical fundamentals, materials testing, plastic forming of metals, and modes of failure. Prerequisites: Graduate Standing or Instructor Consent

ME 734  Credits 3
Fracture of Engineering Materials
Stress-strain relationships during elastic and plastic deformation, linear elastic and elastic-plastic fracture mechanics, Griffith's theory, stress analyses of cracks, plastic zone size, fracture toughness measurements, ductile-to-brittle transition, fatigue failure mechanisms, environment-assisted cracking and relevant test methods, metallographic evaluations using state-of-the-art techniques. Prerequisites: Graduate Standing or Instructor Consent

ME 736  Credits 3
Diffusion in Metals
Covers thermodynamics and phase diagrams, interstitial and substitutional diffusion, diffusion in binary and ternary alloys, solidification, and diffusional and diffusionless transformation in solids. Prerequisites: ME 301 and 302 or equivalent.

ME 740  Credits 3
Advanced Dynamics
Applications of Lagrangian and Newtonian mechanics to mechanical systems. Includes kinematics, moving reference frames, rigid body dynamics, oscillations and mode forms, and gyroscopic effects. Prerequisites: Graduate Standing or Instructor Consent

ME 741  Credits 3
Energy and Variational Methods in Applied Mechanics I
Governing equations of mechanics, energy and variational principles, variational methods of approximation, theory of elasticity, material laws, work and energy, beam theory, finite element method, structural systems. Prerequisites: Graduate Standing or Instructor Consent

ME 742  Credits 3
Energy and Variational Methods in Applied Mechanics II
Theoretical principles for solving solid mechanics problems. Direct continuation of ME 741. Topics covered include: computational solution methods to governing equations, free vibration and forced response of elastic systems, stability analysis, solution methods to governing equations, free vibration and forced response of elastic systems, stability analysis, solution methods for beams, plates, and structural systems. Prerequisites: ME 741

ME 743  Credits 3
Applied Dynamic Finite Element Analysis
Overview of the development of dynamic computational analysis, software description, modeling techniques, symmetry and boundary conditions, initial conditions, contact algorithms, wave propagation, material behavior, implicit analysis, damping, mass scaling, mesh adaptation, element selection, hourglassing, postprocessing, output control, restarts, parallel processing, Eulerian and ALE methods. Prerequisites: Graduate standing in engineering or consent of instructor.

ME 746  Credits 3
Experimental Design and Analysis of Digital Process Control Systems
Applications, design, and experimental practice of mechanical linear and discrete systems: hydraulic, pneumatic, elastic multibody systems, centripetal and coriolis effects, automatic model and code generation. Discrete nonlinear control systems modeling, simulation, design using state space methods. Aspects of system identification, robust and
optimal control. **Prerequisites:** Graduate Standing or Instructor Consent

**ME 747**  
**Credits 3**  
**Orthopedic Biomechanics - Lower Extremities and Spine**  
Biomechanics of the lower extremities and spine; engineering properties and physiology of bone, cartilage, and tendon; analysis of gait; effects of orthopedic impairment and injury; design and surgical implantation of prosthetic joints and fracture fixation devices; engineering of tissue regeneration and replacement. **Prerequisites:** Graduate standing in engineering or kinesiology or consent of instructor.

**ME 748**  
**Credits 3**  
**Prosthetic Systems Engineering**  
Engineering design of prosthetic feet, ankles, knees, and prehension devices; materials and manufacturing; the biomechanics of movement using a prosthesis; residual limb morphology and surgical enhancements; socket design and tissue response; myoelectric devices; microprocessor control; psychophysical and motor control considerations; aspects of clinical science. Emphasis on R&D needs. **Prerequisites:** Graduate standing in engineering or kinesiology or consent of instructor.

**ME 750**  
**Credits 3**  
**Analysis of Human Movement**  
Analysis of the kinematics and kinetics of human movement in two and three dimensions with emphasis on methods used in motion capture, including joint and segment position; acceleration, velocity, force and torque; work and power; and inverse solution methods. **Prerequisites:** Graduate standing in engineering or kinesiology or consent of instructor.

**ME 752**  
**Credits 3**  
**Advanced Air Pollution Control**  
Fundamental chemical and physical principles of generation and control of air pollutants, and applications to pollution control equipment. Pollutant and particle formation during combustion. Gas adsorption and absorption fundamentals and tower/column design. Pollution control strategies. **Prerequisites:** Graduate Standing or Instructor Consent

**ME 759**  
**Credits 3**  
**Mass Transfer in Environmental Systems**  
Fundamentals of mass transfer by diffusion and advection. Solutions to steady-state and transient problems in several dimensions. **Notes:** Applications to natural and engineered systems. **Prerequisites:** Graduate Standing or Instructor Consent.

**ME 760**  
**Credits 3**  
**Waste Management And The Nuclear Fuel Cycle**  
Introduction to the nuclear fuel cycle and management of nuclear waste. Introduction to repository design and performance assessment. Overview of waste form performance, contaminant transport, and risk assessment as applied to nuclear waste management. **Prerequisites:** HPS 701 or consent of instructor.

**ME 774**  
**Credits 3**  
**Introduction to Theory of Elasticity and Plasticity I**  
Introduction to theoretical and applied elasticity and plasticity theory-solutions to engineering problems in structural mechanics and geotechnical engineering. Response of isotropic, orthotropic and layered media to applied stresses and strains. **Prerequisites:** Graduate Standing or Instructor Consent

**ME 777**  
**Credits 3**  
**Application of High-Performance Computing Methods in Science and Engineering**  
Application of high performance computing systems to science and engineering, models for numerically intensive problem solving, high performance numerical algorithms, FORTRAN 90 and high-performance FORTRAN. **Prerequisites:** Knowledge of UNIX, FORTRAN, and previous course on numerical methods. Graduate standing.

**ME 791**  
**Credits 1 – 3**  
**Independent Study in Mechanical Engineering**  
Independent study of a selected mechanical engineering topic. **Notes:** May be repeated to a
maximum of three credits. **Prerequisites:** Graduate standing in mechanical engineering and consent of instructor.

**ME 795**  
**Credits 1 – 6**  
**Advanced Topics in Mechanical Engineering**  
Outlet for experimental and other advanced topics which may be of current interest. **Notes:** Topics and credits to be announced. May have a laboratory. May be repeated to a maximum of six credits.

**ME 796**  
**Credits 1 – 3**  
**Design Project in Mechanical Engineering**  
Synthesis course involving students in the design process from analysis and proposal to solution. **Notes:** May be repeated to a maximum of three credits. **Prerequisites:** Graduate standing in mechanical engineering and consent of instructor.

**ME 797**  
**Credits 3 – 6**  
**Thesis in Mechanical Engineering**  
**Notes:** May be repeated but only six credits will be applied to the program. **Grading:** S/F grading only.  
**Prerequisites:** Graduate standing in mechanical engineering.

**ME 799**  
**Credits 1 – 6**  
**Dissertation**  
Research analysis and writing towards completion of dissertation and subsequent defense. **Notes:** May be repeated to a maximum of 18 credits allowed toward the degree. **Grading:** S/F grading only.  
**Prerequisites:** Graduate standing in Ph.D. program and consent of advisor.
College of Fine Arts

The graduate programs in the College of Fine Arts are considered among the very best in the country. Indeed, several programs are considered the “best!” The deserved reputations of these discrete programs are based largely on the excellent graduate faculty, which consists of highly trained artists and educators of national stature. Graduate programs include: the M.F.A. degree in visual arts; M.M. degree in music with programs in applied music, music education, and theory/composition and the Doctor of Music Arts (D.M.A.); M.F.A. in design/theatre technology, music theatre performance, screenwriting, and playwriting; an M.A. in theatre research; and, a Master of Architecture degree. We have designed all graduate programs, at the professional level, to prepare students to compete aggressively in their chosen fields. Thanks to an excellent artist-in-residence program, our students are exposed to, and work with, professionals who regularly visit the college. Certain of the programs have developed relationships with the best professional outlets in their areas, allowing students to work and interact with professionals prior to graduation. All graduate programs are accredited by their individual accrediting agencies.

The College of Fine Arts is committed to excellence in the classroom in conjunction with practical experience, which hones the skills and talents of its students. An excellent faculty, excellent facilities, excellent connections to the professions, and excellent students all contribute to a fast-growing college that can enhance careers and help dreams become realities.

Jeffrey Koep, Dean

(1989), Professor; B.A., Moorhead State University; M.A., Bowling Green State University; Ph.D., Washington State University.

School of Architecture

Director
Baird, David
(2009), Professor; B.S., University of Illinois; B.Arch, University of Arizona; M.S., M.Arch., University of Arizona.

Graduate Coordinator
White, Janet R.
(1999), Assistant Professor; A.B. Bryn Mawr College, 1976; M. Arch Columbia University 1980; PhD. Cornell University 2001.

Graduate Faculty
Al-Douri, Firas
(2007), Assistant Professor; B.S., Baghdad University; M.S., Baghdad University; Ph.D. Texas A&M University.

Fernandez-Gonzalez, Alfredo
(2003), Associate Professor; B.Arch., Universidad La Salle; Specialist, National Autonomous University of Mexico; M.Arch, University of Oregon.

Kemner, Kevin
(2007), Assistant Professor; B.S., The Ohio State University; M.Arch., The Ohio State University.

Lawrence, Attila
(1988), Professor; B.L.A., Philadelphia College of Art; M.A., Pennsylvania State University.

Nowak, Glenn

Ortega, Daniel
(2000), Associate Professor; B.L.A., University of Nevada, Las Vegas; M.L.A., Rhode Island School of Design.

Stout, Randall
The School of Architecture offers an NAAB accredited Master of Architecture professional degree (M. Arch). The M. Arch. program has the goals of developing students’ abilities to conceive and accurately represent environmentally sound and aesthetically fitting spaces at different scales and to provide a basis for understanding the consequences that these spaces have for their inhabitants, for society, and for the environment.

The School of Architecture capitalizes on the unique conditions provided by the city of Las Vegas and Southern Nevada. The School of Architecture current research emphasis areas are: 1. Sustainable desert climate architecture; 2. Solar and energy efficient building design; 3. Ecological land use planning; 4. Education and Research Facilities Design; 5. Environmental, historic, and socio-cultural contexts ranging from the city to the building site; and 6. Hospitality Designs.

**Accreditation**

In the United States, most state registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit U.S. professional degree programs in architecture, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted a 6-year, 3-year, or 2-year term of accreditation, depending on the extent of its conformance with established educational standards.

Doctor of Architecture and Master of Architecture degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree that, when earned sequentially, constitute an accredited professional education. However, the pre-professional degree is not, by itself, recognized as an accredited degree.

The UNLV School of Architecture offers the following NAAB-accredited degree programs:

- M. Arch. (pre-professional degree + 48 credits)
- M. Arch. (non-pre-professional degree + 96 credits)

The next NAAB accreditation visit for both programs: 2017.

**Program**

- Architecture M. Arch.

**Architecture M. Arch.**

**Admission Requirements**

Each Master of Architecture program applicant must hold a baccalaureate or graduate degree from a regionally accredited college or university recognized by the University of Nevada, Las Vegas. Applicants must have a cumulative undergraduate GPA of 3.00 or higher. Applicants are also required to submit a design portfolio for review, a statement of intent, two letters of reference, and GRE scores of 410 or higher in the verbal section and 430 or higher in the quantitative section. The combined GRE score of these two sections may be no less than 850. International students whose native language is not English must also submit a TOEFL score of 550 (written) or 213 (computerized) or better.

Interested applicants can find detailed information about the Master of Architecture program directly from the School of Architecture’s web site.

Because of differing levels of preparation among entering master’s degree applicants, different paths for admission have been established according to NAAB accreditation requirements; namely, the 4+2 and the 3+ paths.

1. The 4+2 path is intended for students
holding the Bachelor of Science degree with a major in architecture or its equivalent in curriculum content to the UNLV undergraduate program. Qualified applicants holding a five year, NAAB accredited Bachelor of Architecture professional degree may be granted advanced placement.

2. The 3+ path is designed for qualified applicants holding undergraduate or graduate degrees in fields of study other than architecture. If admitted, students are required to complete both undergraduate- and graduatelevel preparatory work as specified by the program faculty before proceeding to the final four semesters of the Master of Architecture program.

Degree Requirements

Required Graduate Courses

Design Studios - Total Credits: 18 or 24

AAE 771L - Architectural Design V
AAE 772L - Architectural Design VI
AAE 789 - Architecture Research Studio
AAE 790 - Professional Project Design
AAE 791 - Thesis Writing

Architectural Research Methods - Total Credits: 3

AAE 770 - Research Methods in Environmental Design

History/Theory/Criticism - Total Credits: 3

AAE 660 - Issues in Contemporary Urbanism

Building Systems - Total Credits: 3

ABS 741 - Integrated Building Systems

Design Management - Total Credits: 3

AAE 756 - Design Practice Management

Concentration Electives - Total Credits: 12 or 18

Selected graduate-level courses as approved by the graduate coordinator (12 credits for students pursuing the Professional Project Option and 18 credits for students pursuing the Written Thesis Option).

Additional Required Courses for 3+ Path

Design Studios - Total Credits: 21

Selected 500-level architecture courses as required by faculty review.

AAE 711L - Graduate Design I: Design and Communication
AAE 712L - Graduate Design II: Fundamentals
AAE 713L - Graduate Design III
AAE 714L - Graduate Design IV
AAD 600 - Clinical Internship (if not previously completed)

Requirements for All Graduate Students

1. After admission, students are required to maintain a minimum GPA of 3.00 on a 4.00 point scale. Any student whose GPA falls below 3.00 will be placed on probation and will have one semester to raise his/her GPA
to 3.00 or higher.
2. Only those courses in which a student receives a grade of B- or better may be used for graduate credit. Students must comply with all UNLV and Graduate College policies.
3. As specified in the Graduate Catalog, the student and the graduate coordinator will develop and file a program of study with the Graduate College. Before filing, the program must receive approval by the School of Architecture Graduate Committee.
4. In order to assess the student’s progress in the program, the School of Architecture Graduate Committee will meet once a year with the student to determine whether or not he/she may advance to the next graduate year.
5. As a final requirement for the M. Arch. professional degree, each student is required to present his/her Professional Project (Professional Project Option) to the School of Architecture Graduate Committee, or take a final oral examination in which the student will defend his/her master’s written thesis (Thesis Option).
6. Professional Project Option

The student must successfully complete a Professional Project developed as part of the course work of the AAE 789 and AAE 791 Design Studios. The Professional Project should address a significant architectural problem and demonstrate a comprehensive design solution. The requirements and evaluation of this project will be determined by the instructor of the AAE 789 and AAE 791 design studio sequence.

Thesis Option

In lieu of the Professional Project, a student may elect, with the approval from the School of Architecture Graduate Committee, to write a research-based Master’s thesis. Once a student chooses to do the Thesis Option, he/she will have to select a four-member Thesis Advisory Committee that will be appointed with the approval of the graduate coordinator and the Graduate College. The master’s thesis will have to focus on an area of concentration approved by the student’s Thesis Advisory Committee and supported by elective course work related to the selected concentration subject. The student should register to the AAE 790 course during the last year in the program.

The instructions outlined in the Graduate College Guide to Preparing and Submitting Your Thesis or Dissertation must be followed in the preparation and final submission of the thesis. In addition to the requirements of the Graduate College, a bound copy must be submitted to the student’s Thesis Advisory Committee chair and to the Architecture Studies Library.

The school reserves the right to retain any or all student projects for the program’s future use and exhibition.

AAD 600
Clinical Internship
Credits 0
Clinical Internship
This course may also be used for graduate elective credit. For a description of this 600-level course, please consult the current UNLV Undergraduate Catalog where it is listed as a 400-level class.
Prerequisites AAE 714L or equivalent.

AAD 661
Computer Applications in Architecture I
Credits 3
Computer Applications in Architecture I
This course may also be used for graduate elective credit. For a description of this 600-level course, please consult the current UNLV Undergraduate Catalog where it is listed as a 400-level class.

AAE 540
Professional Practice and Society
Credits 3
Professional Practice and Society
Professional and societal issues in architectural practice including codes, zoning, licensing, regulations, ethics and standards, building and occupancy types, exiting, accessibility and fire protection.
AAE 555    Credits 3
The Enlightenment to Mid-20th Century: Architectural History and Theory
Exploration of the major movements in the history and theory of built form, beginning in the eighteenth century with the Enlightenment and continuing through the mid-twentieth century. Formerly AAE 655. Notes: Credit at the 600-level requires additional work. Prerequisites: Graduate standing.

AAE 635    Credits 3
Sustainable Design Principles
Exploration of sustainable design emphasizing application of analytical, conceptual, and representational skills within projects that engage cultural, ecological, technological, and urban contexts. Formerly AAE 735

AAE 651    Credits 3
Multidiscipline Theory and Analysis in Architecture
This course may also be used for graduate elective credit. For a description of this 600-level course, please consult the current UNLV Undergraduate Catalog where it is listed as a 400-level class. Notes: Credit at the 600-level requires additional work. Prerequisites: Graduate standing.

AAE 653    Credits 3
Visionary and Utopian Architecture: Plato to Bladerunner
This course may also be used for graduate elective credit. For a description of this 600-level course, please consult the current UNLV Undergraduate Catalog where it is listed as a 400-level class. Notes: Credit at the 600-level requires additional work. Prerequisites: Graduate standing.

AAE 654    Credits 3
Architecture and the New Urbanism
Examination of New Urbanism and its implications for architectural design practices. Prerequisites: Graduate standing.

AAE 657    Credits 3
Architecture in Las Americas
This course may also be used for graduate elective credit. For a description of this 600-level course, please consult the current UNLV Undergraduate Catalog where it is listed as a 400-level class. Notes: Credit at the 600-level requires additional work. Prerequisites: Graduate standing.

AAE 658    Credits 3
History of Renaissance and Baroque Architecture
This course may also be used for graduate elective credit. For a description of this 600-level course, please consult the current UNLV Undergraduate Catalog where it is listed as a 400-level class. Notes: Credit at the 600-level requires additional work. Prerequisites: Graduate standing.

AAE 660    Credits 3
Issues in Contemporary Urbanism
This course may also be used for graduate elective credit. For a description of this 600-level course, please consult the current UNLV Undergraduate Catalog where it is listed as a 400-level class.

AAE 685    Credits 3
Non-Western Settlements
This course may also be used for graduate elective credit. For a description of this 600-level course, please consult the current UNLV Undergraduate Catalog where it is listed as a 400-level class.

AAE 711L    Credits 3
Graduate Design I: Design and Communication
Basic principles of design and communication. Understanding of the fundamentals of architectural graphics, 2-D design principles, 3-D composition and the effect of design elements on design decisions. Prerequisites: Graduate standing.

AAE 712L    Credits 6
Graduate Design II: Fundamentals
Principles of design for graduate students. Understanding of the fundamentals of architectural design principles, site planning, architectural programming, response to specific and unique climate conditions for a given site. Prerequisites: AAE 711L or consent of graduate coordinator.

AAE 713L    Credits 6
Graduate Design III
Design of residential structures at different scales. Emphasis on psychological and behavioral aspects of space and analysis of user needs. Prerequisites: AAE 712L or consent of graduate coordinator.

AAE 714L    Credits 6
Graduate Design IV
Design of medium scale urban buildings. Emphasis on integration of building systems, urban design issues, and value engineering analysis. Prerequisites: AAE 713L or consent of graduate coordinator.

AAE 756    Credits 3
Design Practice Management
Investigation of professional management and organizational issues in the practice of architecture including project delivery, strategic business and financial planning. **Prerequisites** AAE 772L

AAE 770 Credits 3
Research Methods in Environmental Design
Survey of research methods in environmental design. Quantitative and qualitative methods used in researching design, social/behavioral and technical problems in architecture. **Prerequisites** Graduate standing.

AAE 771L Credits 6
Architectural Design V
Design and presentation of complex urban developments and multistory structures in an urban context. **Prerequisites** AAE 714L or consent of graduate coordinator.

AAE 772L Credits 6
Architectural Design VI
Continuation of Architectural Design V, AAE 771L. **Prerequisites** AAE 771L **Corequisite** ABS 741

AAE 775 Credits 3
Tourist Facility Design and Development
Focuses on the interrelationships of social, economic and physical aspects of total tourist facilities design, with emphasis on the physical development of tourism, planning concepts of tourist centers and resort areas. **Prerequisites** Consent of instructor.

AAE 780 Credits 3
The Design-Build Process
Design-build process for project delivery. Analysis of alternative methods. Exploration of design-build concept from initial phases through to project start up and delivery. **Prerequisites** Graduate standing.

AAE 789 Credits 6
Architecture Research Studio
Comprehensive building design project producing final report summarizing the building typology and conceptual design research and definitive written program requirements. **Prerequisites** AAE 772L

AAE 790 Credits 6
Professional Project Design
Design of a complex building, a major design competition, or a comprehensive, integrated building design problem. **Prerequisites** AAE 789

AAE 791 Credits 6
Thesis Writing
Full draft of the written thesis must be completed. Refinement of the problem statement and methodology, completion of literature review, investigation of the chosen problem, data collection and analysis expected. **Notes** May be repeated until course requirements are satisfied, but only six credits counted toward M.Arch. Degree. **Grading** S/F grading only. **Prerequisites** Consent of graduate coordinator.

AAE 793 Credits 1 – 3
Advanced Independent Study
Advanced independent study of a selected topic in architectural design. Paper required. **Notes** May be repeated to a maximum of six credits. **Prerequisites** Graduate standing and consent of instructor.

AAE 795 Credits 1 – 4
Advanced Special Topics in Design
Outlet for experimental and other topics which may be of current interest in design. **Notes** Topics and credits to be announced. May be repeated to a maximum of eight credits. **Prerequisites** Graduate standing and consent of instructor.

ABS 521 Credits 3
Construction Technologies I
Basic materials, methods and detailing of landscape, building and interior construction. Includes effects of zoning and code requirements.

ABS 522 Credits 3
Construction Technologies II
Investigation of building materials, assemblies, and construction delivery systems and their impact upon architectural design. **Prerequisites** AAE 521 or instructor consent.

ABS 531 Credits 3
Environmental Control Systems I
Climate, energy use, and comfort as determinants of architectural form in small-scale buildings. Emphasis on architectural methods of daylighting, heating, cooling, and ventilation for envelope-load dominated buildings. **Corequisite** ABS 531L

ABS 532 Credits 3
Environmental Control Systems II  
Building design implications of HVAC systems, vertical transportation, water supply and waste systems, acoustics, and lighting systems in accordance with current building codes.  
**Prerequisites** AAE 531 / AAE 531L or instructor consent. **Corequisite** ABS 532L

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Course Title</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>ABS 541</td>
<td>3</td>
<td>Structures for Architects I</td>
<td>Theory and basic elements of simple structural systems for architects, designers, and construction manager. Lecture and field trip.</td>
</tr>
<tr>
<td>ABS 632</td>
<td>3</td>
<td>Solar Energy Applications in Architecture</td>
<td>Solar energy as a renewable energy resource for heating and cooling of buildings. Presents technical and design issues of passive and active solar energy systems, as well as solar electric power (photovoltaics). Emphasis on architectural design integration and occupant comfort. Explores design-related projects and case studies of existing solar buildings. <strong>Prerequisites</strong> Graduate standing.</td>
</tr>
<tr>
<td>ABS 640</td>
<td>3</td>
<td>Structures For Architects II</td>
<td>This course may also be used for graduate elective credit. For a description of this 600-level course, please consult the current UNLV Undergraduate Catalog where it is listed as a 400-level class.</td>
</tr>
<tr>
<td>ABS 641</td>
<td>3</td>
<td>Structures For Architects III</td>
<td>This course may also be used for graduate elective credit. For a description of this 600-level course, please consult the current UNLV Undergraduate Catalog where it is listed as a 400-level class.</td>
</tr>
<tr>
<td>ABS 643</td>
<td>3</td>
<td>Interior Lighting Design</td>
<td>This course may also be used for graduate elective credit. For a description of this 600-level course, please consult the current UNLV Undergraduate Catalog where it is listed as a 400-level class. <strong>Prerequisites</strong> ABS 532 or equivalent.</td>
</tr>
<tr>
<td>ABS 644</td>
<td>3</td>
<td>Lighting Design and Technology</td>
<td>Provides an understanding of architectural lighting design. Fundamental principles of light, vision and perception, visual comfort and performance, daylight and electric light sources, systems and luminaires, electrical and lighting codes, and lighting design for a variety of applications. Emphasis on energy-efficient design strategies, system integration and occupant comfort. <strong>Prerequisites</strong> ABS 643</td>
</tr>
</tbody>
</table>

**Environmental Control Systems II**

ABS 741  
Integrated Building Systems  
Design of building structures together with mechanical and electrical services, life safety codes, and building codes.  
**Prerequisites** AAE 771L  
**Corequisite** AAE 772L

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABS 743</td>
<td>3</td>
<td>Advanced Computer Applications for Structures</td>
<td>Application of specialized computer programs in structural design. <strong>Prerequisites</strong> ABS 341 or equivalent.</td>
</tr>
<tr>
<td>ABS 793</td>
<td>1 – 3</td>
<td>Advanced Independent Study</td>
<td>Advanced independent study of a selected building science topic. Paper required. <strong>Notes</strong> May be repeated to a maximum of six credits. <strong>Prerequisites</strong> Graduate standing and consent of instructor.</td>
</tr>
<tr>
<td>ABS 795</td>
<td>1 – 3</td>
<td>Advanced Special Topics in Building Science</td>
<td>Outlet for experimental and other topics of interest in advanced building science. Paper required. <strong>Notes</strong> Topics and credits to be announced. May be repeated to a maximum of six credits. <strong>Prerequisites</strong> Graduate standing and consent of graduate coordinator.</td>
</tr>
<tr>
<td>AAD 701</td>
<td>3 - 6</td>
<td>International Study</td>
<td>Full-time study of architecture and/or allied studies in a foreign location as designated by the program. <strong>Notes</strong> May be repeated to a maximum of 12 credits. <strong>Prerequisites</strong> Graduate standing and consent of graduate coordinator.</td>
</tr>
<tr>
<td>AAD 793</td>
<td>1 – 3</td>
<td>Independent Study</td>
<td>Independent study of a selected topic in architectural design. <strong>Notes</strong> May be repeated to a maximum of six credits. <strong>Prerequisites</strong> Graduate standing and consent of graduate coordinator.</td>
</tr>
<tr>
<td>AAD 795</td>
<td>1 – 3</td>
<td>Advanced Special Topics in Design</td>
<td>Experimental and other topics which may be of current interest in design. <strong>Notes</strong> Topics and credits to be announced. May be repeated to a maximum of six credits. <strong>Prerequisites</strong> Graduate standing and consent of graduate coordinator.</td>
</tr>
</tbody>
</table>
credits. **Prerequisites** Graduate standing and consent of graduate coordinator.

**AAI 650**  
**Designed Environment and Human Behavior**  
This course may also be used for graduate elective credit. For a description of this 600-level course, please consult the current UNLV Undergraduate Catalog where it is listed as a 400-level class.

**AAI 655**  
**Facilities Planning and Design**  
This course may also be used for graduate elective credit. For a description of this 600-level course, please consult the current UNLV Undergraduate Catalog where it is listed as a 400-level class. **Notes** Credit at the 600-level requires additional work. **Prerequisites** Graduate standing and instructor consent.

**AAI 680**  
**Furniture Design**  
This course may also be used for graduate elective credit. For a description of this 600-level course, please consult the current UNLV Undergraduate Catalog where it is listed as a 400-level class. **Notes** Credit at the 600-level requires additional work. **Prerequisites** Graduate standing and instructor consent.

**AAL 655**  
**Landscape Interpretation**  
This course may also be used for graduate elective credit. For a description of this 600-level course, please consult the current UNLV Undergraduate Catalog where it is listed as a 400-level class.

**AAL 656**  
**Campus Planning and Design**  
This course may also be used for graduate elective credit. For a description of this 600-level course, please consult the current UNLV Undergraduate Catalog where it is listed as a 400-level class.

**AAL 665**  
**GIS Planning Methods**  
This course may also be used for graduate elective credit. For a description of this 600-level course, please consult the current UNLV Undergraduate Catalog where it is listed as a 400-level class.

**AAL 667**  
**History and Theory of Golf Course Development**  
This course may also be used for graduate elective credit. For a description of this 600-level course, please consult the current UNLV Undergraduate Catalog where it is listed as a 400-level class.
Art

Chair
McDonald, Aya Louisa
(2000), Associate Professor; B.A., M.A., Ph.D., Stanford University.

Graduate Coordinator
Kennerk, Emily
(2008), Assistant Professor; B.F.A., Herron School of Art; M.F.A, Cranbrook Academy of Art.

Graduate Faculty
Angel, Catherine
(1991), Professor; B.F.A., University of Oklahoma; M.F.A., Indiana University.

Burden, Jeffrey K.
(2007), Professor; B.F.A., University of Evansville; M.F.A., University of Indiana.

Kelly, Cathie C.
(1980), Associate Professor; A.B., Sweet Briar College; Ph.D., Pennsylvania State University.

Kennerk, Emily
(2008), Assistant Professor; B.F.A., Herron School of Art; M.F.A., Cranbrook Academy of Art.

McDonald, Aya Louisa
(2000), Associate Professor; B.A., M.A., Ph.D., Stanford University.

Rafat, Pasha
(1986), Professor, B.S. Arizona State University, M.A., M.F.A. California State University, Fullerton.

Seo, Sang-Duck
(2006), Assistant Professor, BFA Taegu University, Korea, MFA Iowa State University.

Swenson, Kristen J.

(2007), Assistant Professor; B.A., The Evergreen State College; Ph.D., State University of New York.

Tracy, Robert H.
(1984), Associate Professor; B.A., California State University, Hayward; M.A., Ph.D., University of California, Los Angeles.

Watkins, Helga
(1999) Associate Professor; B.F.A., Savannah College of Art and Design; M.F.A., University of Notre Dame.

Professors Emeriti

Abbey, Rita Deanin
(1967-1987), Emeritus Professor; B.F.A., M.A., University of New Mexico.

Burns, Mark
(1992-2011), Emeritus Professor; B.F.A, School of Dayton Art Institute; M.F.A., University of Washington.

Holder, Tom
(1971-2011), Emeritus Professor; B.A., San Diego State University; M.F.A., University of Washington.

Leaf, Bill S.
(1973), Professor; B.F.A., San Francisco Art Institute; M.A., University of California, Davis.

McCollum, Michael L.

Pink, James
(1987) Professor; B.S., M.A., Northern Illinois University; M.F.A., University of Florida.

Warner, Mary
(1991-2011) Emeritus Associate Professor; B.A., M.A., California State University, Sacramento.
Students interested in pursuing the visual arts Master of Fine Arts are encouraged to review the graduate curriculum found in this catalog and reflect on the thoughts, feelings and perceptions offered by a diverse UNLV Department of Art faculty, who serve as a rich and vital resource for the contemporary art scene. The department’s graduate curriculum offers various tracks of emphasis, which are indicative of the general declarations, visions, or centers of tendencies for the dissemination of modernist aesthetic and artistic precepts. Although fundamentally aimed at an enrichment of life and mind through advanced study in studio art, the M.F.A. course of study is also designed to provide training and experience for those students interested in careers as professional artists.

The graduate program, a three-year curriculum consisting of 60 credit hours of instruction, may be taken leading to the Master of Fine Arts degree in any one of the following seven areas: ceramics, drawing, painting, photography, printmaking, sculpture, or graphic design. The National Association of Schools of Art and Design has fully accredited the graduate program. A number of graduate assistantships and private studio spaces are available to assist and support students in their pursuit of the M.F.A.

Programs

- Art M.F.A.

Art M.F.A.

Admission Requirements

A student working toward the M.F.A. in Art may select a major in ceramics, painting, photography, printmaking, drawing, sculpture, or graphic design. Applicants for the program leading to this degree must hold a Bachelor of Fine Arts in Art (or an equivalent degree) from an accredited university.

To be considered for admission to the program, applicants must submit for approval 20 slides of their work, a statement of intent, a resumé, official transcripts, and three letters of recommendation. These materials should be sent directly to the Department of Art. The application for admission, request for graduate assistantship, and an additional set of original transcripts should be sent directly to the Graduate College.

To enter the program, the student should have a baccalaureate in the field in which he or she expects to major and should have completed at least 60 hours in art and art history as a requirement for that degree. A student with less than 60 hours must enroll in undergraduate courses until this requirement is met.

Degree Requirements

Sixty credit hours are required to complete the degree. Approximately six regular semesters are necessary to cover requirements and prepare for the final exhibition. The M.F.A. candidate must be a full-time student (nine credits per semester).

Students with a Master of Arts degree must complete a minimum of 45 credits beyond the M.A. in the M.F.A. program. The student’s committee and the graduate coordinator will determine the exact number of credits to be taken.

After completing approximately three semesters, or thirty credit hours, in the M.F.A. program, the candidate’s work must be submitted to a committee for re-evaluation. The committee, selected by the major professor and the student, determines if the student’s progress meets the standards required for advancement to candidacy. The student’s committee determines the requirements for the degree with the following exceptions:

1. Three hours of ART 721 - Graduate Faculty Studio
2. Six hours of ART 700 - Seminar in Studio Practices
3. Nine hours of Art History, Theory or Directed Readings
4. Four hours of ART 777 - Graduate Exhibition.
5. The remaining forty-one credits will be determined by advisement of the candidates committee.

**Thesis Exhibition**

The thesis is an exhibition of the student’s work done specifically to meet this requirement. The thesis exhibition must have the approval of the student’s committee. After advancement to candidacy, students must complete a comprehensive project consisting of an exhibition of a representative body of creative work and a statement (2,000-word minimum) regarding the intent and underlying conceptualization.

**Final Examination**

The final examination is oral and covers the intent and underlying conception of the student’s comprehensive project. This examination is prepared and conducted by the student’s graduate committee. Two copies of a sheet of 35mm slides of work in the exhibition, along with two copies of the 2,000 word minimum statement, must be presented to the department during the exhibition for permanent record.

The following classes will be scheduled subject to faculty availability, student enrollment, and program requirements.

**ART 604**

*Art in Public Places*

Theoretical and practical investigation of art in public places. Concentration on collaborative process between artists, designers, architects and communities. Includes site considerations, grant writing, proposal preparation and presentation, budgeting, legal aspects, publicity and report development and documentation. **Notes** Credit at the 600 level normally requires additional work.

**ART 662**

*The History of Medieval Art*

Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes** Credit at the 600 level normally requires additional work.

**ART 663**

*History of Early Renaissance Art*

Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes** Credit at the 600 level normally requires additional work.

**ART 664**

*High Renaissance and Mannerist Art*

Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes** Credit at the 600 level normally requires additional work.

**ART 665**

*History of Northern Renaissance Art*

Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes** Credit at the 600 level normally requires additional work.

**ART 666**

*History of Renaissance and Baroque Architecture*

Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes** Credit at the 600 level normally requires additional work.

**ART 667**

*History of Baroque Art I*
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 600 level normally requires additional work.

ART 668
History of Baroque Art II
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 600 level normally requires additional work.

ART 669
Art of Eighteenth Century Europe I
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 600 level normally requires additional work.

ART 670
Art of Eighteenth Century Europe II
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 600 level normally requires additional work.

ART 672
Nineteenth Century Art
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 600 level normally requires additional work.

ART 673
Twentieth Century Art
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 600 level normally requires additional work.

ART 674

ART 676
Performance and Media Art
Provides an alternative history of contemporary art, focusing on performance, media, participatory, and action-based art from the early twentieth century to the present.

ART 677
Art Since 1945
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 600 level normally requires additional work.

ART 680
The Art of China
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 600 level normally requires additional work.

ART 681
Art of Japan
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 600 level normally requires additional work.

ART 695
Special Topics in Art History
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 600 level normally requires additional work.

ART 700
Credits 3
Seminar in Studio Practices
Studio practices directed toward the analysis of studio work. Fosters an open and conducive atmosphere for examination of media and concepts through constructive criticism. Notes May be repeated to a maximum of 12 credits.

ART 710 Credits 1 – 9
Graduate Studio
Individual problems in major studio area, with choice of medium. Notes May be repeated with change of subject, maximum of 15 credits. Prerequisites Graduate standing.

ART 720 Credits 1 – 9
Graduate Projects
Individual problems in major studio area, with choice of medium. Notes May be repeated with change of subject, maximum of 30 credits. Prerequisites Graduate standing in art.

ART 721 Credits 3
Graduate Faculty Studio
Individual problems in the studio area with regularly scheduled discussion sessions involving all department faculty. Notes May be repeated to a maximum of six credits. Prerequisites Graduate standing in art.

ART 722 Credits 3
Graduate Contemporary Practice Seminar
Practice and theory of contemporary space, with emphasis on critical examination of object making utilizing speculative investigations and a synthesis of means. Goals of the course include critical theory, current art criticism, and advancement of the studio practice toward the current global discourse in art. Notes May be repeated to a maximum of fifteen credits.

ART 727 Credits 3
Historiography
Surveying the variety of methods utilized by scholars of the humanities to study the visual arts in the Western world. Prerequisites Graduate standing.
Film

Chair
Menendez, Francisco
(1990), Professor; B.A., University of Puget Sound; M.F.A., California Institute of the Arts.

Graduate Coordinator
Clark, Sean
(1999), Associate Professor; B.S., University of Missouri; M.F.A., University of Iowa.

Graduate Faculty
Wegner, Hart L.
(1968), Professor; B.A., M.A., University of Utah; Ph.D., Harvard University.

The UNLV Department of Film offers a Master of Fine Arts degree in Screenwriting with an emphasis in writing for dramatic media. This terminal film degree provides students with opportunities to develop motion picture screenplays, stage plays, television series, content for the internet, mobile communication, and game-scripting. This is in keeping with the narrative driven curriculum of the Film Department as a whole. This M.F.A. professional training program presents superior academic and artistic standards for the candidates. They are challenged to elevate their talent and craft to levels of excellence to make for seamless transfers into careers in the entertainment industry. Students completing the three-year program will have a significant group of feature motion picture and television scripts that have been honed to the sharpest professional sensibility. In addition to faculty with professional experience, the students are exposed to a variety of guests who are working in the industry.

Program

- Screenwriting M.F.A.: Writing for Dramatic Media

Screenwriting M.F.A.

Writing for Dramatic Media

Admission Requirements

Students are admitted in the fall term of each academic year. In addition to the general requirements for admission to the Graduate College, the following materials must be submitted.

1. A writing sample to the Graduate Coordinator. This sample should be a screenplay. A stage play or prose fiction will suffice if approved by the coordinator. The sample is needed to demonstrate narrative ability.
2. The names, addresses, and telephone numbers of two references.
3. Be interviewed, by telephone or in person, by the Graduate Coordinator.

Review of applications begins January 15.

Degree Requirements

Candidates for the Master of Fine Arts in Screenwriting takes a minimum of 54 credits. The candidate is required to take a minimum 36 credit hours from the following list:

- FIS 722 - Graduate Screenwriting
- FIS 723 - Ensemble Screenwriting
- FIS 724 - The Adaptation Screenplay
- FIS 725 - Writing for Assignment
- FIS 726 - Advanced Screenplay Analysis
- FIS 727 - Advanced Screenplay Theory
- FIS 728 - Graduate Production
- FIS 618 - Writing for Television I
- FIS 619 - Writing for Television II

Electives
Elective classes will include additional graduate-level film courses as well as graduate-level dramatic literature or creative writing courses taught in other departments such as English, theatre or foreign languages.

**Creative Project Requirement**

During the three years of study, each screenwriting student will be expected to complete a minimum of four full-length feature motion picture screenplays and two television scripts. In practice, the output is actually closer to five screenplays and four television scripts. One screenplay will be selected to be the candidate’s thesis script. It will undergo final revision as the work most indicative of the candidate’s art and craft.

**Final Examination**

A two-hour oral examination will take place at the end of the course of study. This examination focuses on the student’s work as a screenwriter (1 hour) and on films selected from the viewing list (1 hour). The viewing list, presented to the student during the course of study, contains motion pictures chosen by merit of their screenplays and the student must be analytically conversant about those movies.

**Courses**

Course work listed is normally open only to matriculating advanced degree students in the Department of Film. Other students who may qualify under Graduate College or university regulations must receive prior consent to register from the Graduate Coordinator.

**FIS 615**  
*Story Development*  
Graduate credit may be obtained for this course designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Credit at the 600-level normally required additional work.

**FIS 618**  
*Writing for Television I*  
Graduate credit may be obtained for this course designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Credit at the 600-level normally required additional work.

**FIS 619**  
*Writing for Television II*  
Graduate credit may be obtained for this course designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Credit at the 600-level normally required additional work.

**FIS 720**  
*Advanced Cinematic Structure*  
Analytical study of screenplay structure based on the filmed script. Select motion pictures established as subject films studied in piece and in detail as to how the structure of each scene works as itself and in the film as whole.  
**Notes** May be repeated to a maximum of six credits.  
**Prerequisites** Graduate standing.

**FIS 721**  
*Collaboration and Preparation*  
Practical exploration of the working process between the screenwriter, the director and the producer. Focuses moving the screenplay from “writers” draft to “production” draft in preparation for shooting.  
**Notes** May be repeated for a maximum of six credits.  
**Prerequisites** Graduate standing.

**FIS 722**  
*Graduate Screenwriting*  
Study of art and craft of writing a feature-length motion picture screenplay. Student completes a full-length (120 pages) screenplay or completes a thorough revision in workshop environment.  
**Notes** May be repeated for a maximum of eighteen credits.  
**Prerequisites** Consent of instructor.

**FIS 723**  
*Ensemble Screenwriting*
Study of the art and craft of screenwriting in an ensemble. Students, as a group, complete four short screenplays and revisions. **Notes** May be repeated for a maximum of six credits. **Prerequisites** Consent of instructor.

**FIS 724**  
**Credits 3**  
**The Adaptation Screenplay**  
Study of adapting a screenplay from another written medium by writing a full-length (120-page) screenplay in accepted industry format. The screenplay must have a contemporary setting but source material must be at least 100 years old and in public domain. **Notes** May be repeated for a maximum of six credits. **Prerequisites** Consent of instructor.

**FIS 725**  
**Credits 3**  
**Writing for Assignment**  
Study and practice of editing, rewriting and revising the creative work of other screenwriters. Students analyze precedent of revising know screenplays, rewrite a full-length script as a group and commit an individual rewrite of a full-length script. **Notes** May be repeated for a maximum of six credits. **Prerequisites** Consent of instructor.

**FIS 726**  
**Credits 3**  
**Advanced Screenplay Analysis**  
In-depth analytical study of a filmed script. Analysis ranges from the effects of a scripted visual technique to metaphor to personal and societal influences. Students write and present two analytical papers. **Prerequisites** Consent of instructor.

**FIS 727**  
**Credits 3**  
**Advanced Screenplay Theory**  
Analytical study of motion pictures with focus on the screenwriter’s intent and agenda. Students conduct thorough research on screenwriters and provide analysis of the screenwriters’ product. Students present and defend two papers combining this research and analysis. **Prerequisites** Consent of instructor.

**FIS 728**  
**Credits 3**  
**Graduate Production**  
Analytical approach to the professional production of a student’s screenplay. Students chronicle all levels of involvement with the physical “shooting” of his, or her, script. **Notes** May be repeated for a maximum of six credits. **Prerequisites** Consent of instructor.
Music

Chair
Good, Jonathan
(2006), Professor; B.S., Mansfield University; M.M., Ohio University Athens

Graduate Coordinator
Burkett, Eugenie
(2005), Associate Professor; B.M.E., Baylor University; M.M., Manhattan School of Music; Ph.D., University of Wisconsin-Madison.

Graduate Faculty
Anderson, Alfonse
(1997), Professor; B.A., M.M., Texas Southern University; D.M.A., University of Arizona.

Baley, Virko
(1970), Professor; B.M., M.M., Los Angeles Conservatory of Music and Arts.

Barone, Anthony
(2006), Assistant Professor; B.A., Cornell University; M.A., Eastman School of Music; Ph.D., Columbia University.

Bernatis, Bill
(1998), Associate Professor; B.M., Washburn University of Topeka; M.M., Indiana University Bloomington.

Burkett, Eugenie
(2005), Associate Professor; B.M.E., Baylor University; M.M., Manhattan School of Music; Ph.D., University of Wisconsin-Madison.

Caplan, Stephen
(1989), Professor; B.M., Northwestern University; M.M., D.M.A., University of Michigan.

Fitzpatrick, Tod
(2003), Associate Professor; B.M., Chapman University; M.M., University of Southern California; D.M.A., University of Southern California.

Grim, Jennifer
(2007), Assistant Professor; B.A., Stanford University; M.M., M.M.A., D.M.A., Yale University.

Gronemeier, Dean
(1989), Professor and Associate Dean; B.A., Northern Illinois University; M.M., D.M.A., University of Arizona; J.D., University of Nevada, Las Vegas.

Hanlon, Kenneth M.

Jones, Timothy
(1997), Lecturer, B.M., University of Adelaide; D.M.A., University of Nevada, Las Vegas.

Krysa, Taras
(2007), Assistant Professor; B.M., Manhattan School of Music; M.M., Indiana University; M.M., Northwestern University.

LaBounty, Anthony
(1988), Associate Professor; B.M., University of Arizona; M.S., University of Illinois Urbana.

Latour, Michelle
(2009), Visiting Lecturer; B.A., California State University, Fresno; M.M., Boston University; D.M.A., University of Southern California.

Le, Wei-Wei
(2007), Assistant Professor; B.M. Oberlin Conservatory of Music; M.M. Cleveland Institute of Music.

Leslie, Thomas
(1985), Professor; B.M.E., University of Iowa; M.S., Indiana State University.

Lister, Linda
(2011), Assistant Professor; A.B., Vassar; M.M. Eastman School of Music; D.M.A., University of North Carolina-Greensboro.

Loeb, David
Maresch, Lisa  
(2010), Visiting Professor; B.M., M.M., University of Nevada, Las Vegas.

McCann, Karen  
(2010), Visiting Professor; B.M., M.A., University of British Columbia; M.M., Westminster Choir College of Rider University; D.M.A., Arizona State University.

McKay, Janis  
(1995), Associate Professor; B.M., University of Georgia; M.M., University of Louisville; D.M.A., Ohio State University.

Mueller, Susan  
(2002), Assistant Professor; B.M., The University of Kansas; M.M., Lesley College.

Smith, Andrew  
(1995), Associate Professor; B.M., Hartt College of Music; M.M., Mannes College of Music; D.M.A., University of California, Santa Barbara.

Sturm, Marina  
(2004), Assistant Professor; Wisconsin Conservatory of Music; Institute de Hautes Etudes Musicales; M.M., Victoria University; D.M.A., State University of New York at Stony Brook.

Suk, Mykola  
(2001), Associate Professor; B.M./M.M., D.M.A., Moscow State Conservatory of Music.

Tanouye, Nathan  
(2010), Assistant Professor; B.A., University of Nevada, Las Vegas

Taranto, Cheryl  

Vega, Diego  
(2010), Assistant Professor; Assistant Professor; B.M., Universidad Javeriana;  
M.M., University of Cincinnati College - Conservatory of Music; D.M.A. Cornell University

Warrington, Tom  
(1999), Associate Professor; B.M., University of Illinois Urbana Campus; M.M. Bowling Green State University.

Weiller, David  
(1984), Assistant Professor; B.A., Occidental College; M.M., University of Illinois Urbana.

Professors Emeriti

Emerson, Isabelle  
(1979-2006), Emeritus Professor; A.B. Barnard College; S.M.M. Union Theological Seminary; M. PHIL. Columbia University; Ph.D Columbia University.

Kimball, Carol A.  
(1972-2008), Emeritus Professor; B. S. New York University; M. A. Arizona State University; D.M.A. Arizona State University.

Peterson, Douglas  
(1967-2000), Emeritus Professor; B.A. Grinnell College; B.M.E., Florida State University; M.A. University of Iowa; D.M.A., University of Iowa.

The UNLV Department of Music provides a professional artistic environment that supports programs of excellence in the development of musicians. The Department offers graduate programs, accredited by the National Association of Schools of Music, which lead to the Master of Music degree with options in Applied Music (Performance), Composition/ theory, Music Education, or Conducting. The Doctor of Musical Arts degree is offered in Performance.

Students not admitted to graduate programs in Music may register for graduate courses only with
permission from the instructor of the course and the appropriate program administrator.

The Application Process

All UNLV graduate student applicants must be accepted into the UNLV Graduate College before they can be admitted into the Department of Music. Department of Music graduate student applicants should begin the application and admission process by visiting the Graduate College website and completing an on-line application.

Programs

- Music M.M.
- Musical Arts D.M.A.

Music Graduate Licensure Program

The Music Graduate Licensure Program is a graduate program offered by the Department of Music leading to an elementary or secondary teaching license and a Master of Music (M.M.).

Students are not admitted during the summer; however, potential candidates may enroll in select courses, as non-admitted graduate students, while awaiting admission to the program. Students should apply for admission to the Graduate College. Once accepted to the Graduate Licensure Program, students should complete the course requirement worksheets they receive and contact their advisors to schedule initial appointments.

Admission Requirements

1. Students must have an earned Bachelor's degree with overall GPA of 2.75 or above in the Comprehensive Subject Area (Vocal/General or Instrumental).

2. Content coursework related to general music core for music majors that mirrors the music education majors must be on transcript (music theory, music history, conducting, piano, private instruction and ensembles.)

3. Passing scores in reading, writing, and mathematics on the Praxis I Pre-Professional Skills Test examination.


6. Documentation of immunizations with UNLV Admissions and Records.

7. Field-based experiences (practicum and student teaching) require fingerprinting in compliance with the Clark County School District (CCSD) policy.

Coursework Requirements

Students are required to complete the courses as delineated in each phase of the program, both prior to and after, student teaching. In the Graduate Licensure Program, students complete the prerequisites and requirements for licensure (with student teaching) prior to completing the Masters degree.

Continuous enrollment must be maintained unless a letter requesting exemption for the semester in question is submitted. Once admitted, students must take a 500, 600 or 700 level course each semester, with the exception of the student teaching semester.

The Plan of Study Sheets should be used as a reference to guide you through your program.

- Vocal
- Instrumental

Graduate Licensure Program Requirements
### Vocal/General

**Program and Research Core: 9 Credits**
- MUS 640 - Foundations and Principles of Music Education
- MUS 641 - Studies in Music Curricula
- MUS 671 - Research in Music Education

**Program Emphasis: 24 Credits**
- CIS 601 - Secondary Teacher Development Seminar
- EPY 707 - Adolescent Development
  - OR
  - EPY 708 - Human Learning and Development
  - MUS 650 - Educational Measurement in Music
  - MUS 655 - Teaching Music and Exceptional Learners
  - MUS 723 - Advanced Choral Conducting
  - MUS 717 - Master Class in Singer's Diction
  - OR
  - MUS 746 - Master Class in Vocal Pedagogy

Music History (3 credits)
Music Theory (3 credits)

**Internship: 3 Credits**
- MUS 502 - School Music Practicum

**Culminating Experience: 1 Credit**
- MUS 697 - Music Culminating Experience

### Instrumental

**Program and Research Core: 9 Credits**
- MUS 640 - Foundations and Principles of Music Education
- MUS 641 - Studies in Music Curricula
- MUS 671 - Research in Music Education

**Program Emphasis: 24 Credits**
- CIS 601 - Secondary Teacher Development Seminar
- EPY 707 - Adolescent Development
  - OR
  - EPY 708 - Human Learning and Development
  - MUS 650 - Educational Measurement in Music
  - MUS 655 - Teaching Music and Exceptional Learners
  - Music History (3 credits)
  - Music Theory (3 credits)
  - MUS 720 - Instrumental Music Reading and Conducting Workshop
  - OR
  - MUS 722 - Instrumental Conducting Seminar

**Internship: 3 Credits**
- MUS 502 - School Music Practicum

**Culminating Experience: 1 Credit**
- MUS 697 - Music Culminating Experience

**Music M.M.**
Admission Requirements

Students applying for admission to the Master of Music degree program must make application through the Graduate College website. There are different deadlines for international students, and for students who wish to apply for assistantships, which are also found on the Graduate College website. In addition to submitting an application and transcripts of all college-level work to the Graduate College, prospective students must present the following credentials:

1. An overall undergraduate GPA of at least 2.75 (or 3.00 in the last two years of undergraduate study).
2. An undergraduate GPA of at least 3.00 in music.

Prospective students must also present credentials to the Department of Music. Under the Program Information section of the online application, please be sure to list your specific concentration. (i.e.: flute performance, jazz composition, etc.). The following credentials must be presented to the Department of Music:

**Master of Music-Performance**

1) Two confidential letters of recommendation from former instructors attesting to the student’s ability to complete graduate work at an acceptable level.
2) A 500-word essay defining career goals and explaining how graduate studies in music will advance the applicant toward these goals.
3) An on-campus performance audition.

**Master of Music-Composition/Theory**

1) Two confidential letters of recommendation from former instructors attesting to the student’s ability to complete graduate work at an acceptable level.
2) A 500-word essay defining career goals and explaining how graduate studies in music will advance the applicant toward these goals.
3) A portfolio of compositions including at least one work from three of the following categories: a) orchestra, band or chorus; b) solo instrument and piano or for solo piano; c) string quartet, brass quintet, woodwind quintet, or other small ensemble; d) set of songs for solo voice and piano; e) original composition scored for jazz ensemble. Additional works may be included.

**Master of Music-Music Education**

1) An undergraduate degree in Music Education or the equivalent is required for admission to the program.
2) Passing PPST I scores for Nevada found at www.ets.org.
3) Two confidential letters of recommendation from former instructors attesting to the student’s ability to complete graduate work at an acceptable level.
4) A 500-word essay on the applicant’s philosophy of music education.
5) An undergraduate degree in Music Education or the equivalent is required for admission to the program.

3) Provide portfolio evidence of two years of successful music teaching experience in the public school. This evidence may include, but is not limited to:
   - A current resume
   - A copy of your teaching credential
   - Representative lesson plans for two classes
   - Audio and/or video of your students’ learning or performing.
   - Programs and other materials demonstrating programs you have given in the past two years

**Master of Music-Conducting**
1) Two confidential letters of recommendation from former instructors attesting to the student’s ability to complete graduate work at an acceptable level.

2) A 500-word essay defining career goals and explaining how graduate studies in music will advance the applicant toward these goals.

3) A videotape or DVD of a rehearsal and performance under the applicant’s direction.

4) An on-campus conducting audition.

**Audition Requirements**

All auditions must be presented by April 15 for fall semester admission and by October 15 for spring semester admission. Audition length, requirements, and contact information vary by area. Please consult the area coordinator for further information.

**Placement Exams**

Prior to registration, all Department of Music graduate students must take placement examinations in music history, theory, and aural skills/sight-singing, regardless of their area of concentration. Passing scores on these exams, or passing grades in the appropriate history or theory review courses (B or above) are required before students may enroll in graduate level history and theory courses. Credit for review courses will not be applied towards the degree.

Successful completion of MUS 690 - Bibliography, with a minimum grade of B, is a pre-requisite for all graduate-level music history classes.

**Music History Placement Examination**

The examination is an assessment of accumulated knowledge. Students may wish to prepare, however, by reviewing the facts and concepts in J. Peter Burkholder, Donald J. Grout, and Claude V. Palisca, A History of Western Music, 7th edition (New York: W.W. Norton, 2006), the volumes of the Prentice Hall History of Music series, or similar texts. Students who show deficiencies in music history will be required to register for MUS 603 - Graduate Music History Review

The examination is given prior to the first day of instruction for the Fall semester. The exact date, time, and location may be found on the Department of Music website: http://music.unlv.edu/home.shtml

Students must take the exam at the designated time; no make-up examinations will be given. Students who fail to take the exam at the scheduled time must complete MUS 603 before enrolling in any other music history course. This course is offered in the Fall semesters only.

For more specific details concerning the placement exam, please consult the Music History Handbook, available on the Music Department website: http://music.unlv.edu/home.shtml or contact Dr. Anthony Barone (702) 895-5953, (anthony.barone@unlv.edu).

**Graduate Music Theory and Aural Skills/Sight-singing Placement Examination**

A sample graduate theory placement exam may be found on the Department of Music’s website: http://music.unlv.edu/home.shtml

The Graduate Aural Skills/Sight-singing Placement Examination consists of:

- Two-voice dictation
- Three-voice dictation
- Harmonic dictation
- Two-part rhythmic dictation
- Sight-singing of a melody in any of the modern clefs (treble, alto, tenor, bass). A single melody may contain clef changes.

Students who show deficiencies in music theory and/or aural skills/sight-singing will be required to register for MUS 604 - Graduate Theory Review and/or MUS 602 - Graduate Ear Training Review.
The Graduate Music Theory and Aural Skills/Sight-singing Placement Examination is given prior to the first day of instruction for the Fall semester and the Spring semester. The exact date, time, and location may be found on the Department of Music’s website: http://music.unlv.edu/home.shtml

Students must take the exam at the designated time; no make-up examinations will be given. Students who fail to take the exams at the scheduled time must complete MUS 604 and MUS 602 before enrolling in any other music theory course.

For more specific details concerning the placement exam, please the Department of Music Office or the Graduate Coordinator (702) 895-3332.

Degree Requirements

Throughout work for the degree, the student must maintain a minimum GPA of 3.00, with no more than two grades of C (2.00), and no grade lower than B (3.00) in the major area of concentration. Performance majors must earn at least a B (3.00) in pedagogy and literature and in ensembles as well as lessons. A thesis is optional and may, with approval, be used in lieu of six credits in the student’s program. Participation in large ensembles is required throughout the student’s residency.

M. M. Comprehensive Exams

All candidates for the Master of Music degree in Applied Music, Composition/Theory, and Conducting are required to take written and oral comprehensive examinations. Candidates for the Master of Music degree in Music Education are required to take a written comprehensive examination and may also be required to take an oral examination.

The Master of Music comprehensive examinations consist of a bibliography research project, a written examination, and an oral examination. The comprehensive exams are taken during the term in which the student intends to graduate. For more specific information, please consult your advisor or the Department of Music Graduate Handbook.

The minimum number of credits required for the Master of Music degree varies with each option or subplan. No more than eight hours of 500-level course work may be applied to the candidate’s degree program. The individual requirements for each of the option areas are as follows:

Applied Music - Performance

A. Applied Major Option - Total Credits: 30

- Bibliography (MUS 690)
- Music History
- Music Theory
- Applied Music
- Recital
- Pedagogy and Literature
  * Ensemble
- Electives (with approval)

B. Accompanying Piano Option - Total Credits: 30

- Bibliography MUS 690
- Music History
- Music Theory
- Applied Music includes two recitals, one with vocalists, one with instrumentalists
  - Pedagogy and Literature (vocal or instrumental)
  * Ensembles
- Accompanying (MUSE 572)
- Electives (with approval)

C. Multiple Woodwind Option - Total Credits: 38

- Bibliography MUS 690
- Music History
- Music Theory
- Major Instrument
  ** Secondary Instruments (4 credits each)
- Recital Credit:
- Pedagogy and Literature
  * Ensemble
- Electives (with approval)
D. Jazz Performance Option - Total Credits: 30

Jazz History  
Jazz Theory  
Jazz Pedagogy  
Jazz Keyboard  
Applied Lessons  
Ensembles (1 large, 1 small)  
Recital  
Music History Elective

Notes:

* Participation in one major ensemble and one chamber ensemble.

** To be selected based on the entrance audition in consultation with the advisor. Requirements for each secondary instrument may be satisfied by examination at the discretion of the department. Equivalent credits shall be taken on another woodwind instrument or as an elective.

Composition/Theory

A. Composition/Theory Option - Total Credits: 32

Bibliography MUS 690  
Music History  
Music Theory  
Applied Music  
Composition (private instruction)  
Recital  
Elective (with approval)

B. Jazz Composition/Theory Option - Total Credits: 32

Bibliography MUS 690  
Jazz History  
Jazz Theory  
Jazz Pedagogy  
Jazz Keyboard  
Applied Lessons  
Composition  
Recital  
Elective (Music History)

Music Education

A. Music Education Option - Total Credits: 33

Bibliography MUS 690  
Music History  
Music Theory  
Music Education: MUS 640, MUS 641, MUS 671

B. Orff Schulwerk Option - Total Credits: 33

Bibliography MUS 690  
Music History  
Music Theory  
Music Education: MUS 640, MUS 671  
Orff Levels I-III: MUS 642, MUS 643, MUS 644

Electives (with approval to include Applied Music or Conducting)

Note: The maximum number of workshop credits is three.

C. Music Graduate Licensure Program

Conducting

A. Choral Option - Total Credits: 35

Bibliography MUS 690  
Music History  
Music Theory  
MUS 721C  
Electives (with approval)  
Applied:  
MUS 723 - Advanced Choral Conducting  
MUSA 766 - Private Graduate Conducting A  
MUSA 766 - Private Graduate Conducting B

OR B 2

Recital  
Ensembles  
Electives (with approval to include Applied Music or Conducting)

B. Orchestral Option - Total Credit Hours: 35

Bibliography MUS 690  
Music History  
Music Theory  
MUS 721A  
Electives (with approval)  
Applied:  
MUS 723 - Advanced Choral Conducting  
MUSA 766 - Private Graduate Conducting A  
MUSA 766 - Private Graduate Conducting B

C 2

Recital  
Ensembles: MUSE 521, MUSE 522

C. Wind Band Option - Total Credits: 35

Bibliography MUS 690  
Music History  
Music Theory  
MUS 721B  
Electives (with approval)
Musical Arts D.M.A.

Admission Requirements

Students applying for admission to the Doctor of Musical Arts degree program must make application through the Graduate College. There are different deadlines for international students, and for students who wish to apply for assistantships, which are also found on the Graduate College website. In addition to submitting an application and transcripts of all college-level work to the Graduate College, prospective students must have a Master's degree in music from a NASM accredited institution.

Placement Exams

Prior to registration, all Department of Music graduate students must take placement examinations in music history, theory, and aural skills/sight-singing, regardless of their area of concentration. Passing scores on these exams, or passing grades in the appropriate history or theory review courses (B or above) are required before students may enroll in graduate level history and theory courses. Credit for review courses will not be applied towards the degree.

Successful completion of MUS 690 - Bibliography, with a minimum grade of B, is a pre-requisite for all graduate-level music history classes.

Music History Placement Examination

The examination is an assessment of accumulated knowledge. Students may wish to prepare, however, by reviewing the facts and concepts in J. Peter Burkholder, Donald J. Grout, and Claude V. Palisca, A History of Western Music, 7th edition (New York: W.W. Norton, 2006), the volumes of the Prentice Hall History of Music series, or similar texts. Students who show deficiencies in music history will be required to register for MUS 603 - Graduate Music History Review. The examination is given prior to the first day of instruction for the Fall semester. The exact date, time, and location may be found on the Department of Music website: http://music.unlv.edu/home.shtml

Students must take the exam at the designated time; no make-up examinations will be given. Students who fail to take the exam at the scheduled time must complete MUS 603 before enrolling in any other music history course. This course is offered in the Fall semesters only.

For more specific details concerning the placement exam, please consult the Music History Handbook, available on the Music Department website: http://music.unlv.edu/home.shtml or contact Dr. Anthony Barone (702) 895-5953, (anthony.barone@unlv.edu).

Graduate Music Theory and Aural Skills/Sight-singing Placement Examination

A sample graduate theory placement exam may be found on the Department of Music’s website: http://music.unlv.edu/home.shtml

The Graduate Aural Skills/Sight-singing Placement Examination consists of:

a) Two-voice dictation

b) Three-voice dictation

c) Harmonic dictation

d) Two-part rhythmic dictation

e) Sight-singing of a melody in any of the modern clefs (treble, alto, tenor, bass). A single melody may contain clef changes.
Students who show deficiencies in music theory and/or aural skills/sight-singing will be required to register for MUS 604 - Graduate Theory Review and/or MUS 602 - Graduate Ear Training Review.

The Graduate Music Theory and Aural Skills/Sight-singing Placement Examination is given prior to the first day of instruction for the Fall semester and the Spring semester. The exact date, time, and location may be found on the Department of Music’s website: http://music.unlv.edu/home.shtml

Students must take the exam at the designated time; no make-up examinations will be given. Students who fail to take the exams at the scheduled time must complete MUS 604 and MUS 602 before enrolling in any other music theory course.

For more specific details concerning the placement exam, please contact the Department of Music Office or the Graduate Coordinator (702) 895-3332.

Degree Requirements

At least 60 semester credits of approved course work beyond the master’s level and completed as follows:

Applied Music Performance

**Brass, Piano, String, and Woodwind Areas** 60

- MUS 773 - Research Seminar 3
- History/Literature (Piano must include MUS 726E) 9
- Music Theory 6
- MUS 719 - Teaching Music in Higher Education 1
- Pedagogy: MUS 747 or 748 3
- Applied Lessons 16

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<thead>
<tr>
<th>Conducting (Wind Band) Area</th>
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<tr>
<td>MUS 773 - Research Seminar</td>
<td>3</td>
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<tr>
<td>History/Literature (must include MUS 727G)</td>
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<td>Music Theory (must include MUS 708)</td>
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<td>MUS 719 - Teaching Music in Higher Education</td>
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<tr>
<td>Pedagogy: MUS 720B, MUS 747F</td>
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<td>Applied Lessons</td>
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<tr>
<td>History/Literature (must include MUS 727H)</td>
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<tr>
<td>Music Theory: MUS 708</td>
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<tr>
<td>MUS 719 - Teaching Music in Higher Education</td>
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<tr>
<td>Pedagogy: MUS 720A and MUS 722</td>
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<td>Applied Lessons</td>
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<td>Ensembles</td>
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<td>Recitals (3)</td>
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<td>Lecture-recital</td>
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<td>Document</td>
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<td>Electives</td>
<td>2</td>
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**Percussion Area** 60

- MUS 773 - Research Seminar 3
- History/Literature 9
- Music Theory 6
- MUS 719 - Teaching Music in Higher Education 1
- Pedagogy: Must include MUS 777 - Seminars in Percussion 9

| Applied Lessons            | 16 |
| Ensembles (1 large, 1 small) | 2 |
| Recitals (3)               | 9 |
| Lecture-recital            | 3 |
| Document                   | 2 |

**Voice Area** 60

- MUS 773 - Research Seminar 3
- History/Literature 9
- Music Theory 6
- MUS 719 - Teaching Music in Higher Education 1
- Pedagogy: MUS 746 6
- Applied Lessons 16

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<td>Recitals (3)</td>
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<td>Document</td>
<td>2</td>
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<tr>
<td>Electives</td>
<td>3</td>
</tr>
</tbody>
</table>

**D.M.A. Foreign Language Requirement**

Reading knowledge of one of these three foreign language is required for the DMA: French, German, or Italian. With permission of the Department of Music Graduate Committee, another language may be substituted. This requirement must be fulfilled before the student schedules their qualifying exams. Students whose native language is not English may not use English or their native language to fulfill this requirement.

Students may fulfill the language requirement by doing one of the following:

1. Pass the Foreign Language Proficiency Exam in one of the approved languages. If the student does not succeed in passing the Foreign Language Proficiency Exam, they must fulfill the foreign language requirement by completing option 2.

2. Complete two successive semesters of regular undergraduate foreign language courses while in residence for the DMA at UNLV in French, German, or Italian with a grade of B (3.0) or better in each course. Students may choose as a starting point the course that best suits their current level of competency.

**Grade Point Average Requirements**

Throughout work for the degree, the student must maintain a minimum GPA of 3.00 with no course work receiving a grade of B- or below. If a student receives a grade of B- or below, the course must be
If the student’s cumulative GPA falls below 3.00, the student may be separated from the program.

The Department of Music reviews the academic performance of graduate students at the end of each academic year and reviews the academic performance of graduate students on assistanships at the end of each semester. If the Department of Music determines that a student is not making satisfactory progress toward the degree, it will request that the Graduate Dean separate the student from the department or place the student on probation. The department will provide the student with the specific requirements, including deadlines, which must be completed for the student to be removed from probation.

**Advising**

Advisors are assigned by the Graduate Coordinator and are usually the student’s major teacher. New graduate students should schedule an appointment with their advisor before registering for classes to determine course of study and will be advised upon matriculation as to which, if any, areas need special attention. Advisors take an active role in assisting to correct any student deficiencies by suggesting appropriate course work. Meetings should continue on a regular basis to assure appropriate progress towards the degree.

**Ensemble Enrollment**

Participation in large ensembles is required throughout the student’s residency. Some areas may have more specific large and small ensemble requirements. Students should consult their advisor for more details.

**MUS 501**

*Counterpoint*

Graduate credit may be obtained for courses designated 500 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 500 level normally requires additional work.

**MUS 502**

*School Music Practicum*

Students work in a music classroom with a teacher to implement lessons planned in music. Students have the opportunity, with supervision, to manage classrooms and to implement instructional plans. Course taken the semester prior to student teaching. Prerequisites CIS 601 and PPST. Corequisite MUS 575, MUS 576, or MUS 578

**MUS 529**

*Interpretation: German Lied*

Graduate credit may be obtained for courses designated 500 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 500 level normally requires additional work.

**MUS 530**

*French Melodie*

Graduate credit may be obtained for courses designated 500 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 500 level normally requires additional work.

**MUS 553**

*MUSIC Skills for Classroom Teachers*


**MUS 575**

*Teaching of Secondary Music: Instrumental*

Overview of instrumental techniques in teaching music in junior and senior high schools. Topics include evaluation and selection of materials, repertoire, curriculum, classroom organization, teacher tools, communications, and use of multimedia and technology. Prerequisites CIS 601 and PPST. Corequisite MUS 502
MUS 576  Credits 2
Teaching of Secondary Music: Vocal
Overview of vocal techniques in teaching music in junior and senior high schools. Topics include evaluation and selection of materials, repertoire, curriculum, classroom organization, teacher tools, communications, and use of multimedia and technology.  Prerequisites CIS 601 and PPST.
Corequisite MUS 502

MUS 577  Credits 1
Teaching of Elementary Instrumental Music
Instruction in pedagogy and performance for general music to include guitar, recorder, barred instruments and unpitched percussion.  Corequisite MUS 578

MUS 578  Credits 2
Teaching Elementary Music
Methods of teaching research-based practices and standards based music curriculum in the elementary school. Includes communication skills, instructional delivery, assessment, lesson design and behavior management.  Prerequisites CIS 601 Corequisite MUS 502

MUS 580  Credits 1
Body Mapping: What Every Performer Needs to Know About the Body
This course gives specific information about practical anatomy and movement. Students will gain ease in performing and learn how improved coordination enables them to avoid fatigue, technical limitation and injury.

MUS 581E  Credits 6-12
Elementary Supervised Student Teaching: Music
Full time teaching as a teacher candidate in an elementary school related directly to the teaching of music. Teacher candidates demonstrate their knowledge, skills and disposition for teaching through directed mentorship from certified licensed teachers and university liaisons/supervisors and participate in all aspects of an elementary school.  Prerequisites MUS 578 Corequisite MUS 582

MUS 581S  Credits 6-12

Secondary Supervised Student Teaching: Music
Full time teaching as a teacher candidate in a secondary school related directly to the teaching of music. Secondary teacher candidates demonstrate their knowledge, skills and disposition for teaching through directed mentorship from certified licensed teachers and university liaisons/supervisors and participate in all aspects of a secondary school.  Prerequisites MUS 575 or MUS 576 Corequisite MUS 582

MUS 582  Credits 2
Supervised Student Teaching Seminar: Music
Music education teacher candidates attend required seminar sessions during student teaching. The seminar is designed to provide support for correlating professional education courses to actual classroom teaching experiences, reflective opportunities for self-assessment and systematic connections between university and school district supervisory personnel.  Corequisite MUS 581E or MUS 581S

MUS 590  Credits 1
Music Internship
Prerequisites Consent of instructor.

MUS 602  Credits 2
Graduate Ear Training Review
Designed to develop the student’s ear training and sight-singing skills to the level necessary to pass the Graduate Aural Skills/Sight-singing Placement Examination.  Notes Not credited toward graduate program of study.

MUS 603  Credits 3
Graduate Music History Review
An accelerated survey of composers and works from the Middle Ages to the present, providing graduate students with concepts and historical perspective needed for further graduate music history studies.  Notes Not credited toward graduate program of study.

MUS 604  Credits 3
Graduate Theory Review
A review of common-practice harmony, counterpoint, and form.  Notes Not credited toward graduate program of study.

MUS 609  Credits 3
Jazz Theory and Composition
Analytical and written studies covering advanced jazz harmony as it relates to specific style
developments in jazz history from the bebop period to present day. **Prerequisites** Graduate standing, undergraduate course work in jazz theory or consent of instructor.

**MUS 611**
**Jazz Keyboard and Arranging**
Study of advanced keyboard techniques as they apply to jazz composition. **Prerequisites** Graduate standing; undergraduate course work in jazz keyboard or consent of instructor.

**MUS 613**
**Jazz Pedagogy**
Examination of the basic materials, systems, and philosophies related to jazz education. **Prerequisites** Graduate standing or consent of instructor.

**MUS 617**
**Marching Band Techniques**
Techniques of charting field movements and arranging musical selections for the marching band.

**MUS 640**
**Foundations and Principles of Music Education**
Examination of the historical, psychological, and philosophical foundations of music education and teaching principles derived from these foundations.

**MUS 641**
**Studies in Music Curricula**
Scope and sequence of musical experiences in the school music program including new techniques, trends, and developments in music education influencing change in curricula.

**MUS 642**
**Orff Schulwerk Teacher Training Certification Level I**
Development of a sequential teaching curriculum utilizing chants, rhymes, poetry, singing, rhythmic and melodic training, improvisation, the study of pentatonic scales, the ostinato, simple bordun accompaniments, and elemental forms and soprano recorder. **Prerequisites** Undergraduate major in music education or consent of instructor.

**MUS 643**
**Orff Schulwerk Teacher Training Certification Level II**
Extension of Level One techniques with further exploration in the following areas: mixed and uneven meters, harmonizations to include the moving bordun and chord change accompaniments, movement and instrumental improvisation, extended form, and the continuation of the soprano recorder with the introduction of the alto recorder. Students will teach a short lesson demonstrating Orff process. **Grading** 3

**MUS 644**
**Orff Schulwerk Teacher Training Certification Level III**
Extension of Level Two techniques with further exploration in instrumental and vocal improvisation; advanced orchestration; major, minor, and modal materials; advanced recorder and movement. Students will teach two short lessons. **Prerequisites** Successful completion of Orff Schulwerk Teacher Training Level II in an AOSA approved course.

**MUS 645**
**History of Orff Schulwerk**
A study off the Orff Schulwerk approach through examination of key people and political events, dance and movement practices, pedagogy and orchestration. Level I Orff Schulwerk Teacher Certification or experience teaching in the approach is recommended. **Prerequisites** Consent of instructor.

**MUS 646**
**Advanced Orff Orchestration**
A study and practical application of orchestration techniques in the Orff Schulwerk approach to include arranging folk songs, speech and body percussion, non-tuned percussion, recorder and barred percussion instruments. Level II Orff Schulwerk Teacher Certification and 5 years teaching experience in the Orff Schulwerk approach recommended. **Prerequisites** Instructor Consent

**MUS 647**
**Orff Schulwerk for the Classroom Teacher**
Utilizes singing, creative movement, speech, body percussion, musical drama, and instruments. Provides opportunities to explore, plan, and develop units of musical activities which coordinate with public school music programs. Helps teachers improve individual music skills while enhancing classroom programs.

**MUS 650**
**Educational Measurement in Music**
A study of techniques, administration, and evaluation of tests and measurements appropriate for the K-12 music classroom to include: classroom tests and assessments, multiple-choice tests, performance-
based and authentic assessments, observational techniques, achievement and aptitude tests, portfolios, and standardized tests.

MUS 651  
Credits 3  
Music Methods for Early Childhood  
Techniques for teaching and integrating music for preschool and primary children. Participation in musical experiences and performance assignments required. **Prerequisites** Graduate or special student status.

MUS 652  
Credits 3  
Advanced Studies in Elementary School Music  
Review, critical analysis and examination of current pedagogy and materials in the elementary music classroom. Focus includes Kodaly, Orff, Dalcroze, and Gordon approaches, emphasis on the use of technology and the development of sequential experiences which contribute to children's musical growth.

MUS 653  
Credits 3  
Teaching Non-Performance Music in Secondary School  
Content, organization, and materials of non-performance music classes and teaching units for secondary school students to include: music appreciation, general music, music theory, and music history. **Prerequisites** Graduate Standing.

MUS 655  
Credits 3  
Teaching Music and Exceptional Learners  
Examination of the legislative, psychological, sociological, and philosophical foundations of music education for special learners and teaching principles derived from these foundations. Active discussion and lesson building, skills and approaches to teach in the music classroom with special learners will be actively included in class meetings. **Prerequisites** Graduate standing.

MUS 665  
Credits 2  
Private Theory and Composition  
Offerings for individual instruction include: a) Composition and Seminar. b) Orchestration. c) Jazz Arranging and Composition. f) Form and Analysis. g) Counterpoint. j) Harmony. **Notes** May be repeated for credit. **Prerequisites** Consent of instructor.

MUS 671  
Credits 3  
Research in Music Education  
Investigation of methods of research, procedures for reporting research, and examination of research literature in music education.

MUS 672  
Credits 3  
Research Project in Music Education  
Design and completion of research study using descriptive or experimental research skills in a clinical or educational setting, or using historical research techniques. **Prerequisites** MUS 671

MUS 680  
Credits 2-6  
Thesis  
May be repeated but only six credits will be applied to the student's program. **Grading** S/F grading only.

MUS 690  
Credits 3  
Bibliography  
Study of the bibliography of music and methods of research.

MUS 698  
Credits 2  
Recital-Master's Level  
Presentation of a full recital. **Notes** May be repeated for a maximum of twelve credits. **Prerequisites** Consent of Advisory Committee. **Corequisite** Concurrent enrollment in MUS 661.

MUS 699  
Credits 1-6  
Independent Study  
Investigation of specific aspect of music under supervision of a faculty member. Students must present proposals, including advisors and numbers of credits, no later than one week before registration. a) History/Literature. b) Theory/Composition. c) Music Education. d) Pedagogy and Literature. **Prerequisites** Consent of instructor.

MUS 705  
Credits 3  
Techniques of the Romantic Period  
Analytical and written studies covering compositional practices of the nineteenth and early twentieth centuries. **Prerequisites** MUS 690; Graduate standing in music.

MUS 706  
Credits 3  
Twentieth-Century Techniques  
Analytical and written studies covering compositional practices from Impressionism to the present day.

MUS 707  
Credits 3  
Analysis in Relation to Performance
A study of Schenkerian analysis and its application to the problems of performance.

MUS 708 Credits 3
Aspects of Musical Style
Identification and study of the theoretical aspects of musical style through the examination of representative works from music literature.
**Prerequisites** MUS 304, 407

MUS 717 Credits 3
Master Class in Singer's Diction
Phonetics and diction for singers in English, Italian, French, German, and Spanish.

MUS 718 Credits 3 – 9
Seminars in Voice
To study representative vocal repertoire from major song composers of a) German lieder, b) French melodie c) Italian song and d) American song through performance, discussion, reading, and listening. Study of repertoire in each national area. Encompasses origins and development of the genre, and interpretive concerns relating to text, diction and composers' styles. **Notes** May be repeated to a maximum of 12 credits. **Prerequisites** Doctoral standing.

MUS 719 Credits 1
Teaching Music in Higher Education
Examination of the preparation, skills, and ethics essential for securing and retaining a faculty position in music at the college or university level. **Prerequisites** Doctoral standing.

MUS 720 Credits 1 – 3
Instrumental Music Reading and Conducting Workshop
Primarily for the purpose of reading large ensemble music with additional emphasis on conducting techniques and pedagogy. Orchestra.

MUS 722 Credits 3
Instrumental Conducting Seminar
Analysis of individual conducting problems with emphasis on orchestral and contemporary music. a) Orchestra b) Band.

MUS 723 Credits 3
Advanced Choral Conducting
Preparation of selected choral scores with emphasis on style and interpretation.

MUS 725 Credits 3
Advanced Choral Literature
Form and style in choral music of the Renaissance and Baroque periods to the present.

MUS 726 Credits 3
Survey of Solo Repertoire
Examination of solo literature available for performance in the following media. a) String. b) Woodwind. c) Brass. d) Percussion. e) Piano. f) Vocal. g) Guitar.

MUS 727 Credits 3
Survey of Ensemble Repertoire
Examination of ensemble literature available for performance in the following media. a) String. b) Woodwind. c) Brass. d) Percussion. e) Piano. f) Choral. g) Band. h) Orchestra.

MUS 728 Credits 3
Percussion Literature and Pedagogy
Study of the origins and developments and the pedagogical techniques of standard percussion instruments, including general concert percussion instruments, keyboard percussion instruments, and drum set. **Prerequisites** Graduate standing or consent of instructor.

MUS 740 Credits 3
History of Orff Schulwerk
A study of the history of the Orff Schulwerk approach through examination of key people and political events, dance and movement practices, pedagogy and orchestration. Level I Orff Schulwerk Teacher Certification or experience teaching in the approach is recommended. **Prerequisites** Instructor Consent

MUS 742 Credits 3
Orff Certification Level I
Development of a sequential teaching curriculum utilizing chants, rhymes, poetry, singing, movement, instrumentation, and soprano recorder. **Prerequisites** Undergraduate major in music education or consent of instructor.

MUS 743 Credits 3
Orff Certification Level II
Extension of a sequential teaching curriculum utilizing major and minor modes, additional harmonic techniques, complex rhythms, expanded elemental forms, and alto recorder. **Prerequisites** Completion of Orff Level I.
MUS 744  Credits 3
Orff Certification Level III
Extension of a sequential teaching curriculum utilizing pentatonic and diatonic scales, lydian and mixolydian modes, descant, parallelism, irregular meters, changing meters, and off-beat accents.  
Prerequisites Completion of Orff Level II.

MUS 746  Credits 3
Master Class in Vocal Pedagogy
Techniques for training and retraining voices. Study of the singer's vocal production mechanism.

MUS 747  Credits 3
Instrumental Music Pedagogy
Rationale and procedures for developing a logical and appropriate course of study for individual instruction of instrumental music. a) Piano. b) Brass. c) Woodwind. d) String. e) Guitar. f) Band. g) Orchestra.

MUS 748  Credits 3
Music Wellness: A Survival Guide for Teachers and Performers
Focuses on past and current research related to health preservation and injury prevention among musicians. Vocal, auditory, mental and neuromusculoskeletal health will be investigated through the exploration of Body Mapping, as well as methods developed by Feldenkrais, Alexander, Taubman and others.

MUS 756  Credits 3
Percussion Ensemble in the High School Curriculum
Focuses on elements needed to develop and maintain high school percussion ensembles. Primary attention devoted to conducting and performing techniques, and study of appropriate literature. Secondary attention devoted to general methods and maintenance of percussion section along with basic considerations for assigning parts. Prerequisites Consent of instructor.

MUS 761  Credits 2 – 4
Graduate Applied Music for Performance Majors

MUS 762  Credits 2 – 4
Graduate Applied Music for Performance Majors
counterpoint, form, instrumentation, as well as other elements of musical style. **Prerequisites** Master's degree in music and consent of instructor.

**MUS 777**  
**Credits 1 – 3**  
**Seminars in Percussion**  
Candidate chooses three percussion topics to research at five-week intervals. Examines the topic as to its history, pedagogy, and literature. Formal presentation after each five-week period featuring the research with emphasis on specific area within the general topic. **Prerequisites** Master's degree in music and consent of instructor.

**MUS 780**  
**Credits 2-6**  
**Document**  
The document is limited in scope compared to a dissertation, demonstrates professional standards of scholarship, and contributes to existing knowledge within the field of study. **Prerequisites** Successful completion of D.M.A qualifying exams, successful completion of all required D.M.A academic course work and consent of advisory committee.

**MUS 781**  
**Credits 3**  
**Lecture-Recital**  
Presentation of a lecture-recital demonstrating a synthesis of performance and scholarship. Topic is directly related to the topic of the student's D.M.A document. **Prerequisites** Successful completion of all required D.M.A academic course work and consent of advisory committee. **Corequisite** Concurrent enrollment in MUS 764.

**MUS 783**  
**Credits 3**  
**Jazz History Seminar**  
In-depth study of jazz history with special focus on student research and presentations. **Prerequisites** Graduate standing; undergraduate course work in jazz history or consent of instructor.

**MUS 784**  
**Credits 3**  
**Chamber Music**  
Study of chamber music from 1650 to the present. Analysis of representative works from different style periods and emphasis on relationships of development of orchestra and formal development of genre. **Prerequisites** MUS 690 and Graduate standing; or MUS 320, 321 and consent of instructor.

**MUS 786A**  
**Credits 3**  
**The Operas of Mozart**  
Detailed study of the operas of W. A. Mozart, analysis of style, vocal writing, of his librettists, and the influences on the formation of his style. **Prerequisites** MUS 690, Graduate standing in music.

**MUS 786B**  
**Credits 3**  
**The Operas of Verdi**  
Detailed study of the operas of Giuseppe Verdi, analysis of style, vocal writing, his librettists, and influences that led to formation of his style. **Prerequisites** MUS 690, Graduate standing in music.

**MUS 786C**  
**Credits 3**  
**Puccini and the Verismo**  
Surveys and discusses the operatic works of Giacomo Puccini and his importance to the historical development of opera. Discussion of the period in Italian Opera known as Verismo with emphasis on composers that help to create this musical form. **Prerequisites** MUS 690, Graduate standing in music.

**MUS 786D**  
**Credits 3**  
**American Opera Seminar**  
In-depth survey of American operas in the twentieth century, with emphasis on composer, representative works, style and content. **Prerequisites** MUS 690, Graduate standing in music.

**MUS 789**  
**Credits 3**  
**The Art Song**  
Study of solo song from its beginning to the present day. **Prerequisites** MUS 690, Graduate standing in music.

**MUS 792**  
**Credits 3**  
**History of Opera**  
Study of the historical development of opera from Monteverdi to the present with emphasis on representative works and composers. **Prerequisites** MUS 690; Graduate standing in music.
MUS 793 Credits 3
Medieval and Renaissance Music
Study of the evolution of European music from antiquity through the end of the sixteenth century.

MUS 794 Credits 3
Music of the Baroque Period
Examination of the styles and forms of the seventeenth and early eighteenth centuries.

MUS 795 Credits 3
Classical and Early Nineteenth-Century Music
Examination of the styles and forms of the period 1750 to 1825.

MUS 796 Credits 3
Music of the Romantic Period
Examination of the styles and forms from 1815 through the early twentieth century.

MUS 797 Credits 3
Music of the Twentieth Century
Examination of the styles and forms from Impressionism to the present day.

MUS 798 Credits 3
Recital
Presentation of a full recital at the doctoral level. Notes May be repeated for a maximum of fifteen credits. Prerequisites Consent of the advisory committee.

MUS 799 Credits 1 – 3
Independent Study
Investigation of specific aspect of music under supervision of a faculty member. Students must present proposals, including advisors and numbers of credits, no later than one week before registration. a) History/Literature. b) Theory/Composition. c) Music Education. d) Pedagogy and Literature. Notes May be repeated to a maximum of six credits for master's candidates and nine credits for doctoral. Prerequisites Consent of instructor.

MUSA 766 Credits 2 – 4
Private Graduate Conducting
Along with the individual private lesson, candidates must attend a weekly, one-hour conducting seminar. a) Orchestral. b) Band. c) Choral. Prerequisites Successful audition and permission of instructor.

MUSE 524 Credits 1
New Horizons Band

A rehearsal and study of wind and percussion literature from all historical periods for members of the university and community. May include scheduled appears on and off campus. Notes May be repeated to a maximum of 4 credits.

MUSA 660 Credits 2
Secondary Applied Music for Master's Students

MUSA 661 Credits 2
Applied Music for Master's Students

MUSA 667 Credits 2
Applied Music for Master's Students, Non-Performance Majors

MUSA 667Q Credits 1-2
Applied Music for Master's Students, Non-Performance Majors
Individual instruction on voice. Audition and jury examination required. For students in music education, theory and composition, or Master of Fine Arts curricula. Notes One credit available for M.F.A. acting candidates only. Prerequisites Successful audition and permission of instructor.

MUSA 760 Credits 2
Secondary Applied Music for Doctoral Students
Individual instruction on instruments or voice other than the student's area of specialization. a) euphonium. b) Bassoon. c) Cello. d) Clarinet. e) Flute. f) Horn. g) Oboe. i) Piano. j) Saxophone. k) String Bass. l) Trombone. m) Trumpet. n) Tuba. o) Viola. p) Violin. q) Voice. r) Guitar. s) Percussion. t) Organ. u) Harp. **Prerequisites** Permission of instructor.

**MUSA 764**  
**Applied Music for Doctoral Students**  
Individual instruction on instruments or voice. Audition and jury examination required. 
- a) Euphonium. 
- b) Bassoon. 
- c) Cello. 
- d) Clarinet. 
- e) Flute. 
- f) Horn. 
- g) Oboe. 
- i) Piano. 
- j) Saxophone. 
- k) String Bass. 
- l) Trombone. 
- m) Trumpet. 
- n) Tuba. 
- o) Viola. 
- p) Violin. 
- q) Voice. 
- r) Guitar. 
- s) Percussion. 
- t) Organ. 
- u) Harp. **Prerequisites** Successful audition and permission of instructor.

**MUSA 767**  
**Applied Music for Doctoral Students, Non-Performance Majors**  
Individual instruction on instruments. Audition and jury examination required. 
- a) Euphonium. 
- b) Bassoon. 
- c) Cello. 
- d) Clarinet. 
- e) Flute. 
- f) Horn. 
- g) Oboe. 
- i) Piano. 
- j) Saxophone. 
- k) String Bass. 
- l) Trombone. 
- m) Trumpet. 
- n) Tuba. 
- o) Viola. 
- p) Violin. 
- q) Voice. 
- r) Guitar. 
- s) Percussion. 
- t) Organ. 
- u) Harp. **Prerequisites** Successful audition and permission of instructor.

**MUSE 503**  
**Chamber**  
Advanced chamber ensemble with emphasis on a cappella literature of all periods. Required participation in scheduled performances. **Notes** Credit at the 500 level normally requires additional work.

**MUSE 504**  
**Opera Workshop**  
Laboratory course devoted to the performance of operatic excerpts and short operas. **Notes** Credit at the 500 level normally requires additional work.

**MUSE 505**  
**Women’s Chorus**  
Study and performance of sacred and secular choral music for female voices. Required participation in scheduled performances. **Notes** Credit at the 500 level normally requires additional work.

**MUSE 506**  
**Varsity Men’s Glee Club**  
Study and performance of sacred and secular choral music for male voices. Required participation in scheduled performances. **Notes** Credit at the 500 level normally requires additional work.

**MUSE 507**  
**Master Chorale**  
Mixed choir for music majors, non-majors, and community members which focuses upon a cappella repertoire as well as major works with orchestra. Required participation in scheduled performances. **Notes** Credit at the 500 level normally requires additional work. **Prerequisites** Membership by audition.

**MUSE 508**  
**Concert Singers**  
Concert choir that performs sacred and secular choral music of many styles, including a cappella literature. Required participation in scheduled performances. **Notes** Credit at the 500 level normally requires additional work.

**MUSE 513**  
**Wind Orchestra**  
Emphasis on wind and percussion literature from all historical periods. Required participation in scheduled appearances for various events on and off campus. **Notes** Credit at the 500 level normally requires additional work. **Prerequisites** Successful audition.

**MUSE 515**  
**Marching Band**  
Experience in large instrumental ensembles. Required participation in scheduled appearances for various events on and off campus. Designed primarily to perform at football games. **Notes** Credit at the 500 level normally requires additional work. **Prerequisites** Consent of instructor.

**MUSE 516**  
**Pep Band**  
Experience in large instrumental ensembles. Required participation in scheduled appearances for various events on and off campus. Ensemble designed primarily to perform at basketball games. **Notes** Credit at the 500 level normally requires additional work. **Prerequisites** Consent of instructor.

**MUSE 518**  
**Community Concert Band**
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>Notes</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSE 520</td>
<td>1</td>
<td>Open to all university students with previous band experience. Required participation in scheduled appearances for various events on and off campus. Required participation in scheduled performances for various events on and off campus. Credit at the 500 level normally requires additional work.</td>
<td>Consent of instructor.</td>
<td></td>
</tr>
<tr>
<td>MUSE 521</td>
<td>1</td>
<td>Premier university ensemble which rehearses and performs orchestral repertoire from the early Baroque to the present day. Participants selected by audition and the instructor's consent. Credit at the 500 level normally requires additional work.</td>
<td>Successful audition.</td>
<td>Consent of instructor.</td>
</tr>
<tr>
<td>MUSE 522</td>
<td>1 each</td>
<td>Small orchestral ensemble with an emphasis on developing chamber music skills and rehearsal techniques. Repertoire ranges from the early Baroque to the present day. Credit at the 500 level normally requires additional work.</td>
<td>Successful audition required.</td>
<td></td>
</tr>
<tr>
<td>MUSE 531</td>
<td>1</td>
<td>Experience in large ensemble performances in the jazz idiom. Required participation in scheduled performances both on and off campus, including festivals and out-of-town tours. Credit at the 500 level normally requires additional work.</td>
<td>By audition only.</td>
<td></td>
</tr>
<tr>
<td>MUSE 533</td>
<td>1</td>
<td>Jazz Combo experience including the study of appropriate repertoire. Preparation for performances will be done in weekly scheduled combo rehearsals.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUSE 534</td>
<td>1</td>
<td>Jazz Guitar Ensemble. Exposes guitar students to a broad spectrum of musical styles, exercises their reading skills, and spectrum of musical styles, exercises their reading skills, and introduces them to the art of improvisational soloing. Experience the camaraderie of playing in an ensemble and the opportunity to exchange information and ideas. Credit at the 500 level normally requires additional work.</td>
<td>Successful audition.</td>
<td></td>
</tr>
<tr>
<td>MUSE 535</td>
<td>1</td>
<td>Jazz Vocal Ensemble. Exposes the students to performance with emphasis on essential stylistic interpretations associated with the jazz vocal repertoire. A rhythm section will be provided. Credit at the 500 level normally requires additional work.</td>
<td></td>
<td>Successful audition.</td>
</tr>
<tr>
<td>MUSE 536</td>
<td>1</td>
<td>Rehearsals with performance opportunities in contemporary jazz styles. Students will explore relevant jazz literature and are encouraged to compose original jazz music. Performances may take place on and off campus. Credit at the 500 level normally requires additional work.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUSE 537</td>
<td>1</td>
<td>Exposes the students to performance with emphasis on essential stylistic interpretations associated with Latin jazz repertoire.</td>
<td>Successful audition.</td>
<td></td>
</tr>
<tr>
<td>MUSE 541</td>
<td>1</td>
<td>Woodwind Ensemble. Students rehearse and perform chamber music for various instrumental combinations. Performances may take place on and off campus. Credit at the 500 level normally requires additional work.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In addition, each combo will perform two additional concerts, so that a minimum of three performances is required of each combo during the semester. Credit at the 500 level normally requires additional work. Successful audition. |
may take place on and off campus. **Notes** Credit at the 500 level normally requires additional work. **Prerequisites** Audition and instructor consent required.

**MUSE 544**  
**Clarinet Choir**  
Students rehearse and perform chamber music for various instrumental combinations. Performances may take place on and off campus. **Notes** Credit at the 500 level normally requires additional work. **Prerequisites** Audition and instructor consent required.

**MUSE 545**  
**Saxophone Ensemble**  
Students rehearse and perform chamber music for various instrumental combinations. Performances may take place on and off campus. **Notes** Credit at the 500 level normally requires additional work. **Prerequisites** Audition and instructor consent required.

**MUSE 546**  
**Brass Ensemble**  
Students rehearse and perform chamber music for various instrumental combinations. Performances may take place on and off campus. **Notes** Credit at the 500 level normally requires additional work. **Prerequisites** Audition and instructor consent required.

**MUSE 551**  
**String Chamber Ensemble**  
Students rehearse and perform chamber music for various instrumental combinations. Performances may take place on and off campus. **Notes** Credit at the 500 level normally requires additional work.

**MUSE 553**  
**Guitar Ensemble**  
Students rehearse and perform chamber music for various instrumental combinations. Performances may take place on and off campus. **Notes** Credit at the 500 level normally requires additional work. **Prerequisites** Audition and instructor consent required.

**MUSE 561**  
**Percussion Ensemble**  
Students rehearse and perform chamber music for various instrumental combinations. Performances may take place on and off campus. **Notes** Credit at the 500 level normally requires additional work.

**MUSE 562**  
**Marimba Band**  
Students rehearse and perform chamber music for various instrumental combinations. Performances may take place on and off campus. **Notes** Credit at the 500 level normally requires additional work. **Prerequisites** Audition and instructor consent required.

**MUSE 563**  
**African Ensemble**  
Students rehearse and perform chamber music for various instrumental combinations. Performances may take place on and off campus. **Notes** Credit at the 500 level normally requires additional work. **Prerequisites** Audition and instructor consent required.

**MUSE 565**  
**Steel Drum Band**  
The UNLV Steel Band performs music of many genres predominantly the music indigenous to Jamaica and Trinidad. Students will develop the ability and skills to play a variety of steel pans, percussion instruments and drum set. **Notes** Credit at the 500 level normally requires additional work.

**MUSE 566**  
**Hand Drum Ensemble**  
Art of playing a variety of hand drums from around the world. Students exposed to authentic patterns, techniques and the general drum circle experience. Beginning and advanced ensembles accommodate the needs of all participants. **Notes** May be repeated to a maximum of 10 credits.

**MUSE 571**  
**Piano Ensemble**  
Students rehearse and perform chamber music for various instrumental combinations. Performances may take place on and off campus. **Notes** Credit at the 500 level normally requires additional work. **Prerequisites** Audition and instructor consent required.

**MUSE 572**  
**Accompanying**  
Develops skills needed in vocal and instrumental accompanying. Fulfills 1 credit of ensemble requirement for piano majors. **Notes** Credit at the 500 level normally requires additional work.
Prerequisites Intermediate piano skills or consent of instructor.

MUSE 580 Credits 1
Opera Production
Involvement as a performer or production assistant in an opera/operetta production. Notes Credit at the 500 level normally requires additional work. Prerequisites Successful audition.

MUSE 590 Credits 1
Special Ensemble
Graduate credit may be obtained for courses designated 500 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 500 level normally requires additional work. Prerequisites Audition and instructor consent required.

MUSE 591 Credits 1
Chamber Music for Non Majors
Graduate credit may be obtained for courses designated 500 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 500 level normally requires additional work. Prerequisites Audition and instructor consent required.

MUSE 593 Credits 1
Special Vocal Ensemble
Graduate credit may be obtained for courses designated 500 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 500 level normally requires additional work. Prerequisites Audition and instructor consent required.

MUSE 594 Credits 1
Collegium
Study, performance, and researching of early and rarely performed music of historical importance, including new and unperformed works. Performances prepared for both university and public presentation. Open to qualified personnel by audition and consent of instructor. The Collegium determines its own procedural policies. (A) Madrigal singers (B) Early Music Consort Notes Credit at the 500 level normally requires additional work. Prerequisites Audition and consent of instructor.

MUSE 595 Credits 1
Chamber Players
Teaching and performance of contemporary music, with special emphasis on the historic approach to the many styles that have developed from early twentieth century to the present time. Also involves the learning and proper execution of various new notational styles. Notes Credit at the 500 level normally requires additional work.

MUSE 619 Credits 1
Brass Band
Ensemble designed to rehearse and concertize literature composed/transcribed for large brass ensemble and percussion. Required participation in scheduled appearances for various events on and off campus. Notes Credit at the 500 level normally requires additional work. Prerequisites Consent of instructor.

MUSE 664 Credits 1
Percussion and Dance
Students rehearse and perform chamber music for various instrumental combinations. Performances may take place on and off campus. Notes Credit at the 600 level normally requires additional work.
Theatre

**Chair**
Brackley Frayer  
(1995), Associate Professor; B.A., New England College; M.F.A., Yale School of Drama.

**Graduate Coordinator**
Bynum, Joe Nathan  
(1999), Professor; B.S., Bowie State College; M.F.A., Southern Illinois University.

**Graduate Faculty**
Aldridge, Joe  
(1989) Associate Professor; B.A., Texas Tech University; M.A., University of Nevada, Las Vegas.

Bynum, Joe Nathan  
(1999), Professor; B.S., Bowie State College; M.F.A., Southern Illinois University.

Casale, Glenn  
(2003), Associate Professor, B.A., Marist College; M.A., University of Nevada, Las Vegas.

Cornell, Rayme  
(2007), Adjunct Faculty; B.A., University of Nevada, Las Vegas; M.F.A., University of Missouri, Kansas City.

Gilyard, Clarence  
(2006) Associate Professor; B.A., California State University, Dominguez Hills; M.F.A., Southern Methodist University

Hansen, Scott  
(2006) Assistant Professor; B.A., University of Northern Iowa; M.F.A., Yale School of Drama.

Hubbard, Philip J.  
(1999), Associate Professor; B.A., University of California, Riverside; M.F.A., Southern Methodist University.

Koep, Jeffrey  
(1989), Professor and Dean, College of Fine Arts; B.A., Moorhead State University; M.A., Bowling Green State University; Ph.D., Washington State University.

Lugering, Michael  
(1991), Professor; B.S., Florida State University; M.F.A., University of Utah.

McDonough, Ann  
(1990), Professor; B.A., College of St. Catherine; M.A., Ph.D., University of Minnesota.

Ryerson, Judith A.  
(2005), Associate Professor; B.F.A., West Virginia University, M.F.A., University of Utah.

Sumpter, Shannon  
(1999), Associate Professor; B.F.A., Adelphi University; M.F.A., Yale School of Drama.

Tylo, Michael  

**Professors Emeriti**
Brewer, Robert  

Burgan, Robert N.  
(1972), Emeritus Professor; B.A., University of Nevada, Las Vegas, M.F.A., Ohio University.

Crawford, Jerry L.  
(1962-1994), Emeritus Professor; B.F.A., Drake University; M.A., Stanford University; Ph.D., University of Iowa.

Harris, Paul C.  
(1959-1989), Emeritus Professor; B.A., University of Colorado; M.A., Ph.D., Stanford University.
Programs

- Theatre M.A.
- Theatre M.F.A.

Theatre M.A.

Admission Requirements

Students seeking an M.A. degree are admitted for matriculation in the fall or spring semester of the academic year. In addition to the general requirements for admission to the Graduate College, applicants must submit the following to the Department of Theatre:

1. An official transcript from all postsecondary institutions attended, showing an undergraduate degree in theatre and the date awarded. (An acceptable alternative undergraduate major coupled with satisfactory practical experience in theatre may be deemed equivalent to an undergraduate major in theatre.)
2. A written statement (500 words or less) of the applicant’s purpose in pursuing graduate study.
3. Two letters of recommendation sent by former instructors, employers, or other professionals who can evaluate the applicant’s potential to complete graduate study. These materials may be sent to the following address:

   Department of Theatre
   Attn: Graduate Coordinator
   University of Nevada, Las Vegas
   4505 S. Maryland Parkway
   Box 455036
   Las Vegas, NV 89154-5036

   Note: A writing sample and/or a personal interview may also be requested by the department’s Graduate Coordinator.

Required reading for M.A. candidates

A reading list will be given to each student upon entering the program. It contains major works in theatre history, performance theory, and dramatic criticism and play texts. It is expected that M.A. students will have read everything on the list and be prepared to answer questions of comprehension as part of their final examination.

Thesis

A thesis topic is proposed by the student and approved by the examination committee. The M.A. thesis should be an original contribution of knowledge about a suitable dramatic or theatrical subject, no less than fifty pages in length. In matters of form and style, the student should follow the procedures set forth by the Graduate College in this catalog and in its Thesis and Dissertation Manual. A minimum of six thesis credits is required in the degree program.

Examinations

Students enrolled in the M.A. program will take a written diagnostic examination at the beginning of their first semester. Additionally, M.A. candidates will take a written comprehensive examination one week prior to their oral examination. The first half of the oral examination will be focused on defense of thesis; the second half will be based upon the Graduate Reading List, the curricular content represented in the student’s individual course of study, and the results of their comprehensive examination.

Program of Study - Total Credits: 31

A minimum of 31 semester hours of credit in a program approved by the student’s advisor and examination committee. The 31 credits might include:
Theatre M.F.A.

The Master of Fine Arts is a three-year program offering advanced concentrations in Design/Technology, Directing, Performance, Playwriting, and Stage Management. Actors, directors, playwrights, stage managers, and technicians receive comprehensive and specialized training in preparation for careers in the professional theatre. While deeply committed to the individual theatre artist, the program fosters and encourages an integrated and collaborative approach to theatre. In each semester of training, graduate students share a two-credit graduate seminar committed to progressive and practical exploration of the essential theatre.

The Nevada Conservatory Theatre

The Nevada Conservatory Theatre engages national and international theatre professionals in all disciplines to work alongside the most advanced students from the UNLV Department of Theatre. It is a leading theatre in Las Vegas and southern Nevada. It enriches, strengthens, and challenges the cultural and artistic life of the city and strives to be the state’s premier theatre. It seeks the most advanced level of artistic achievement and to become a renowned regional theatre in America.

Admission Requirements

In addition to the general requirements for admission to the Graduate College, applicants must submit to the Department of Theatre:

1. An official transcript from all postsecondary institutions attended, showing an undergraduate degree in theatre and the date awarded. (An acceptable alternative undergraduate major coupled with satisfactory practical experience in theatre may be deemed equivalent to an undergraduate major in theatre.) M.F.A. candidates deemed to have deficiencies in their training may be required to take specific remedial course work. Students with deficiencies in theatre history will be required to take THTR 681 and THTR 682 (Theater History I and II). Remedial course work may not be counted toward the degree requirements.

2. A written statement (500 words or less) of the applicant’s purpose in pursuing graduate study.

3. Two letters of recommendation sent by former instructors, employers, or other professionals who can evaluate the applicant’s potential to complete graduate study. These materials, in addition to those required by the individual concentrations, may be sent to the following address:

   Department of Theatre
   Attn: Graduate Coordinator
   University of Nevada, Las Vegas
   4505 S. Maryland Parkway

   THTR 681 - Theatre History I
   (required credits: 3)
   THTR 682 - Theatre History II
   (required credits: 3)
   THTR 701 - Research in Theatre and Drama
   THTR 702 - Graduate Seminar
   (required credits: 4)
   THTR 798 - Thesis
   (required credits: 6)
   Electives
   (required credits: 12)

Note

THTR 798 should be taken over the course of at least two semesters with a minimum of two credits hours in the student’s final semester of study.

The Nevada Conservatory Theatre

The Nevada Conservatory Theatre engages national and international theatre professionals in all disciplines to work alongside the most advanced students from the UNLV Department of Theatre. It is a leading theatre in Las Vegas and southern Nevada. It enriches, strengthens, and challenges the cultural and artistic life of the city and strives to be the state’s premier theatre. It seeks the most advanced level of artistic achievement and to become a renowned regional theatre in America.

Admission Requirements

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1. An official transcript from all postsecondary institutions attended, showing an undergraduate degree in theatre and the date awarded. (An acceptable alternative undergraduate major coupled with satisfactory practical experience in theatre may be deemed equivalent to an undergraduate major in theatre.) M.F.A. candidates deemed to have deficiencies in their training may be required to take specific remedial course work. Students with deficiencies in theatre history will be required to take THTR 681 and THTR 682 (Theater History I and II). Remedial course work may not be counted toward the degree requirements.

2. A written statement (500 words or less) of the applicant’s purpose in pursuing graduate study.

3. Two letters of recommendation sent by former instructors, employers, or other professionals who can evaluate the applicant’s potential to complete graduate study. These materials, in addition to those required by the individual concentrations, may be sent to the following address:

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   Attn: Graduate Coordinator
   University of Nevada, Las Vegas
   4505 S. Maryland Parkway

   THTR 681 - Theatre History I
   (required credits: 3)
   THTR 682 - Theatre History II
   (required credits: 3)
   THTR 701 - Research in Theatre and Drama
   THTR 702 - Graduate Seminar
   (required credits: 4)
   THTR 798 - Thesis
   (required credits: 6)
   Electives
   (required credits: 12)
Required reading

A reading list will be given to each student upon entering the program. It contains major works in theatre history, performance theory, dramatic criticism and approximately one hundred play texts. It is expected that graduate students will read everything on the list and be prepared to answer questions of comprehension as part of their final examination.

Advancement to Candidacy

The candidacy of all first-year M.F.A. students is provisional. Upon completion of the first year of study, the faculty in each area formally review their students’ academic and artistic progress. If progress is deemed satisfactory, a student is advanced to M.F.A. candidacy. After advancement to candidacy, the student forms an examination committee comprised of four graduate faculty, three to be selected from the Department of Theatre and one representative from another department or college.

Termination of Candidacy

The faculty in each area of study periodically review the candidate’s progress. Termination of candidacy is determined by the faculty in consultation with the student’s advisor, the examination committee and the Graduate Coordinator.

Final Examination

All M.F.A. candidates will complete a two-hour oral examination at the end of their course of study. The first hour will focus on the student’s course of study and the intent, purpose, conceptualization and realization of the student’s creative project(s). The second hour will focus on the graduate reading list.

Design/Technology

Additional admission requirement

In addition to general materials requested by the Department of Theatre, please submit a portfolio of representative work.

Program of Study - Total Credits: 72

A minimum of 72 semester hours in a program approved by the student’s advisor and examination committee. A representative degree program might include:

- THTR 701 - Research in Theatre and Drama
- THTR 702 - Graduate Seminar (Required Credits: 10)
- THTR 703 - Collaborative Process
- THTR 748 - Seminar in Theatre Architecture and Apparatus
- THTR 749 - CAD for the Theatre or
- ART 710 - Graduate Studio (required credits: 3)
- THTR 797 - Creative Project (required credits: 7)
- Design/Technology Studio Courses (required credits: 24)
- Electives (required credits: 19)

Directing

Additional admission requirements

In addition to general materials requested by the Department of Theatre (see above), please submit a directorial analysis of a play chosen from the following list:

- Othello (Shakespeare)
- Tartuffe (Moliere)
- She Stoops to Conquer (Goldsmith)
- A Doll’s House (Ibsen)
- Long Day’s Journey Into Night (O’Neill)
A Streetcar Named Desire (Williams)
All My Sons (Miller)
Glengarry Glen Ross (Mamet)
Take Me Out (Greenberg)
The Heidi Chronicles (Wasserstein)
Fences (Wilson)
Lips Together Teeth Apart (McNally)
Wit (Edson)
The Goat (Albee)

The analysis should not exceed five double-spaced typewritten pages and should include:

1. A brief statement of the director’s reason for selecting this play.
2. A single sentence summary of the plot.
3. A single sentence expressing the essence of the play in a metaphor.
4. A simple description of the theatrical style the director is contemplating. (This may best be achieved by comparing the production to other well-known works.)
5. A selected, annotated bibliography of historical, social, political or aesthetic research.
6. A brief discussion of time and location of the action. If the director intends to reset the action to a locale or time not indicated in the script, there must be a clear description and justification of that choice.
7. Three color copies of visual images you would submit to your designers as a point of departure for your collaboration.

All directing students are required to interview with members of the directing faculty. Interviews will be arranged after required materials have been received.

The M.F.A. Directing Program has a three-year admission cycle.

Program of Study - Total Credits: 72

A minimum of 72 semester hours in a program approved by the student’s advisor and examination committee. A representative degree program might include:

- THTR 702 - Graduate Seminar

Performance

Additional admission requirements

In addition to general materials requested by the Department of Theatre (see above), students must audition either in person or through submission of a VHS tape (audition tapes cannot be returned). The audition should contain the following:

1. Two contrasting selections, one of which must be Shakespeare. The total audition should not exceed four minutes in length.
2. A song selected from a Broadway musical not to exceed one minute in length. A CD or cassette recording of your accompaniment is recommended as accompaniment cannot be provided.

The M.F.A. in Performance Program admits a new class every three years.

Program of Study - Total Credits: 72
A minimum of 72 semester hours in a program approved by the student’s advisor and examination committee. In addition to required course work, graduate students in performance must audition for all productions affiliated with the Nevada Conservatory Theatre and the University Theatre Season. The degree program might include:

- THTR 702 - Graduate Seminar (required credits: 10)
- THTR 763 - Audition Technique
- THTR 764 - Dialects for the Stage
- THTR 771 - Acting Studio (required credits: 12)
- THTR 773 - Scene Study (required credits: 12)
- THTR 775 - Sound and Movement Studio (required credits: 10)
- THTR 777 - Movement for the Actor (required credits: 6)
- THTR 779 - Speech for the Actor (required credits: 6)
- THTR 781 - Dance for the Actor (required credits: 6)

**Playwriting**

*Additional admission requirement*

In addition to general materials requested by the Department of Theatre (see above), submit two original plays, including at least one full-length play, and a one page statement of personal aesthetics. Materials cannot be returned.

**Program of Study - Total Credits: 72**

A minimum of 72 semester hours in a program approved by the student’s advisor and examination committee. A representative degree program might include:

- THTR 701 - Research in Theatre and Drama
- THTR 702 - Graduate Seminar (required credits: 10)
- THTR 707 - Form, Style and Structure
- THTR 711 - Playwrights Master Class (required credits: 12)
- THTR 713 - Playwriting:
- THTR 714 - Playwriting:
- THTR 716 - Playwrights Laboratory
- THTR 717 - Playwrights Tutorial (required credits: 3)
- THTR 719 - Dramaturgy
- THTR 720 - Playwrights Workshop (required credits: 5)
- THTR 726 - Problems in Direction
- THTR 796 - Internship (required credits: 3)
- THTR 797 - Creative Project (required credits: 6)
- Electives (required credits: 12)

**Stage Management**

*Additional admission requirement*

In addition to general materials requested by the Department of Theatre (see above), submit several pages from a sample prompt script (cannot be returned). An interview with Stage Management faculty will be scheduled after application materials have been received.

**Program of Study - Total Credits: 72**

A minimum of 72 semester hours in a program approved by the student’s advisor and examination committee. A representative degree program might include:

- THTR 621A - Entertainment & Fine Art Law I (required credits: 6)
- THTR 621B - Entertainment & Fine Art Law II (required credits: 6)
- THTR 702 - Graduate Seminar (required credits: 10)
- THTR 725 - Directing Studio
• THTR 727 - Scene Design Studio I
• THTR 732 - Technical Direction Studio I (required credits: 8)
• THTR 736 - Stage Management Studio I (required credits: 8)
• THTR 737 - Stage Management Studio II (required credits: 3)
• THTR 739 - Theatre Management
• THTR 740 - Production Management
• THTR 741 - Costume Design Studio I (required credits: 3)
• THTR 745 - Lighting Design Studio I (required credits: 3)
• THTR 749 - CAD for the Theatre
• EDA 745 - Human Dynamics and Organizational Leadership (required credits: 3)
• THTR 797 - Creative Project (required credits: 3)

Electives (required credits: 15)

THTR 621A
Entertainment & Fine Art Law I
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 600 level normally requires additional work.

THTR 621B
Entertainment & Fine Art Law II
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 600 level normally requires additional work.

THTR 654
Directing I
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes Credit at the 600 level normally requires additional work.

THTR 701
Credits 3
Research in Theatre and Drama
Graduate research methodology, research reporting and research/creative thesis document preparation.

THTR 702
Credits 2
Graduate Seminar
Interdisciplinary course in history, theory, criticism, dramaturgy, aesthetics and technique. Through selected readings, lectures, discussions and collaborative projects, actors, directors, designers, playwrights, stage managers and theatre scholars explore the essential theatre. Topics rotate each semester. Course required for all M.A. and M.F.A. Students. Notes May be repeated to a maximum of twelve credits. Prerequisites Graduate standing.
<table>
<thead>
<tr>
<th>Course Number</th>
<th>Credits</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>THTR 703</td>
<td>3</td>
<td>Collaborative Process</td>
<td>Explores the working relationships between designer, director, and technician in the process of play production. Notes: May be repeated for a maximum of six credits.</td>
</tr>
<tr>
<td>THTR 704</td>
<td>3</td>
<td>Oral History Theatre</td>
<td>Focuses on the study of the development, structure and performance techniques of oral history theatre. Methods presented along with guidelines for adapting techniques to a variety of age groups.</td>
</tr>
<tr>
<td>THTR 707</td>
<td>3</td>
<td>Form, Style and Structure</td>
<td>Study of the theatre text, classical to modern, explicating form, style and structure.</td>
</tr>
<tr>
<td>THTR 711</td>
<td>3</td>
<td>Playwrights Master Class</td>
<td>Advanced writing class for second and third year playwrights. Notes: May be repeated to a maximum of twelve credits. Prerequisites: Consent of instructor.</td>
</tr>
<tr>
<td>THTR 713</td>
<td>3</td>
<td>Playwriting: The One-Act Play</td>
<td>Practical course in the writing of shorter dramatic forms, focusing on craft, structure and technique. Prerequisites: Consent of instructor.</td>
</tr>
<tr>
<td>THTR 714</td>
<td>3</td>
<td>Playwriting: The Full Length Play</td>
<td>Practical course in the writing of long dramatic forms, focusing on craft, structure and technique. Prerequisites: Consent of instructor.</td>
</tr>
<tr>
<td>THTR 715</td>
<td>3</td>
<td>Playwriting: Adaptation Study and writing workshop</td>
<td>of adaptations for the stage of non-dramatic sources and adaptations of plays from earlier historical periods. Prerequisites: Consent of instructor.</td>
</tr>
<tr>
<td>THTR 716</td>
<td>3</td>
<td>Playwrights Laboratory</td>
<td>Explores the collaborative role of the playwright during the rehearsal process of a new play with actors, directors, and dramaturg. Prerequisites: Consent of instructor.</td>
</tr>
<tr>
<td>THTR 717</td>
<td>1 – 4</td>
<td>Playwrights Tutorial</td>
<td>Meetings with individual members of the faculty and with guest artists for discussion of successive drafts of work in progress. Prerequisites: Consent of instructor.</td>
</tr>
<tr>
<td>THTR 719</td>
<td>3</td>
<td>Dramaturgy</td>
<td>Overview of the history, form and function of dramaturgy. Provides active experience in dramaturgy, on a variety of drama from the classic play to new works. Collaborative relationships among director, playwright, and dramaturg explored. Prerequisites: Graduate standing.</td>
</tr>
<tr>
<td>THTR 720</td>
<td>1 – 5</td>
<td>Playwrights Workshop</td>
<td>Weekly meeting of all playwrights for reading and discussion of works in progress. Prerequisites: Consent of instructor.</td>
</tr>
<tr>
<td>THTR 725</td>
<td>3</td>
<td>Directing Studio</td>
<td>Laboratory course in the technique and aesthetics of directing. Topics rotate each semester and may include history of directing, rehearsal techniques, script analysis, visualization, and collaboration. Specific laboratory assignments may include apprenticeships, dramaturgy, stage management as well as directing short, full-length musical and original playscripts. Notes: May be repeated to a maximum of eighteen credits. Prerequisites: Consent of instructor.</td>
</tr>
<tr>
<td>THTR 726</td>
<td>3</td>
<td>Problems in Direction</td>
<td>&quot;The following course was not found in the supplied content but, were listed in program requirements.&quot;</td>
</tr>
</tbody>
</table>
THTR 727  Credits 3
Scene Design Studio I
Focuses on training the first-year graduate student in scene design. Emphasizes the essential skills of drafting, research ing historical and visual sources, aesthetic judgment, concept development, and production collaboration. Student required to assist faculty and advanced designers on a minimum of three productions for the year.
Prerequisites Consent of instructor.

THTR 728  Credits 3 – 6
Scene Design Studio II
Focuses on training the second-year graduate student in scene design. Develops skills in rendering, model making, and refines skills through assignment as designer on a minimum of two department productions for the year. Notes May be repeated to a maximum of nine credits. Prerequisites THTR 727

THTR 729  Credits 3 – 6
Scene Design Studio II
Focuses on the graduate student's last year of development. Provides the student with the opportunity to demonstrate the mastering of the professionalism needed to practice the art of scene design. Student required to design a minimum of two productions for the year. Notes May be repeated to a maximum of nine credits. Prerequisites THTR 728

THTR 732  Credits 3 – 6
Technical Direction Studio I
Trains the first-year graduate student in technical direction. Emphasizes the essentials skills of drafting, CAD, researching historical and visual sources, aesthetic judgement, concept development and production collaboration. Student required to assist faculty and advanced technical direction students on a minimum of two productions for the year. Notes May be repeated to a maximum of twelve credits. Prerequisites Consent of instructor.

THTR 733  Credits 3 – 6
Technical Direction Studio II
Trains the second-year graduate student in technical direction. Develops skills in rigging safety, welding, sound, construction techniques, construction methods, estimating, and ordering materials. Student required to assist faculty and advanced technical direction students on a minimum of three productions for the academic year.
Notes May be repeated to a maximum of twelve credits. Prerequisites THTR 732

THTR 734  Credits 3 – 6
Technical Direction Studio III
Focuses on the graduate student's last year of development. Provides student with the opportunity to demonstrate the mastering of the professionalism needed to practice the art of technical direction. Student required to serve as Technical Director for a minimum of two productions for the year. Notes May be repeated to a maximum of twelve credits.
Prerequisites THTR 733

THTR 735  Credits 3
Sound Design: Theory and Practice
Art of sound design developed through lectures, weekly projects, demonstrations, and production involvement.

THTR 736  Credits 1 – 4
Stage Management Studio I
Focuses on the principles and techniques of stage management with emphasis on setting up the prompt book, dissemination of information, and the relationship with directors, actors, and staff. Also examines contracts that the stage manager works under with an emphasis on work-related rules. Stage management assignment. Notes May be repeated to a maximum of eight credits. Prerequisites Consent of instructor.

THTR 737  Credits 1 – 4
Stage Management Studio II
In addition to lab assignments, rotating topics may include: Production, show management, entertainment on the road, performance artist representation, career preparation. Guest speakers address working in the professional theatre. Notes May be repeated to a maximum of 16 credits.
Prerequisites Graduate standing, THTR 736

THTR 739  Credits 3
Theatre Management
Focuses on the relationship between the art and business of theatre, exploring front of house positions such as general managers, business managers, box office managers, publicity and
development directors. **Prerequisites** Graduate standing.

**THTR 740**  
**Production Management**  
Credits 3  
Examines the responsibilities of production managers. Focuses on organizational skills, dissemination of information and collaborative relationship that a production manager must foster with design, technical, and performance staff. **Prerequisites** Graduate standing.

**THTR 741**  
**Costume Design Studio I**  
Credits 3 – 6  
Focuses on training the first-year graduate student in costume design. Emphasizes the essential skills of play analysis, historic period research, aesthetic judgment, costume rendering techniques and production collaboration. Student assists faculty and advanced graduate designers on a minimum of three productions for the year. **Notes** May be repeated to a maximum of nine credits. **Prerequisites** Consent of instructor.

**THTR 742**  
**Costume Design Studio II**  
Credits 3 – 6  
Focuses on training the second-year graduate student in costume design. Emphasizes the refinement of design skills, such as plot layouts, the costume plate, and fabric. Assignment of a minimum of two department productions for the year, demonstrating practical application of the knowledge gained. **Notes** May be repeated to a maximum of nine credits. **Prerequisites** THTR 741

**THTR 743**  
**Costume Design Studio III**  
Credits 3 – 6  
Focuses on the graduate student's last year of development in his/her area of specialization. In addition to further refinements in theory, technique and style, program culminates with the student demonstrating the mastery of costume design through a minimum of two fully realized assignments for the year for a substantial department production. **Notes** May be repeated to a maximum of nine credits. **Prerequisites** THTR 742

**THTR 745**  
**Lighting Design Studio I**  
Credits 3 – 6  
Focuses on training the first-year graduate student in lighting design. Develops skills in concept development research, production collaboration, design, drafting and execution of the light plot for theatre and dance. **Notes** May be repeated to a maximum of nine credits. **Prerequisites** Consent of instructor.

**THTR 746**  
**Lighting Design Studio II**  
Credits 3 – 6  
Focuses on training the second-year graduate student in lighting design. Further develops skills in concept development research, production collaboration, design, drafting and execution of the light plot for theatre and dance. Development through assignment on a minimum of two department productions for the year. **Notes** Student required to assist faculty and advanced designers on a minimum of three productions for the year. May be repeated to a maximum of nine credits. **Prerequisites** THTR 745

**THTR 747**  
**Lighting Design Studio III**  
Credits 3 – 6  
Focuses on training the third-year graduate student in lighting design. Final year provides the student with the opportunity to demonstrate the mastering of the skills and responsibilities of a lighting designer. Student required to design a minimum of two productions for the year. **Notes** May be repeated to a maximum of nine credits. **Prerequisites** THTR 746

**THTR 748**  
**Seminar in Theatre Architecture and Apparatus**  
Credits 3  
In-depth study of the architectural instrument, the theatre building. Covers the structural forms, grounding them in their historical timeline. The team-taught seminar provides a basic process for accessing and using the theatre building of the present and planning the theatre building of tomorrow. **Prerequisites** Graduate standing.

**THTR 749**  
**CAD for the Theatre**  
Credits 3  
Explores the use of computer-aided drafting in theatre design and technology. Includes training in Mincad, Maclux Pro and other programs available for use in theatre design and technology practices. **Prerequisites** Consent of instructor.

**THTR 763**  
**Audition Technique**  
Credits 2  
Preparation of a theatre audition, both musical and nonmusical. Study of theatrical unions, contracts, agents, and the legal and professional aspects of professional acting. **Notes** Instructor approval.

**THTR 764**  
Credits 1-3
Dialects for the Stage
Study and practice of dialects and accents for the stage. **Prerequisites** Consent of instructor.

THTR 771 Credits 1-4
Acting Studio
Laboratory course in the practice and process of the technique, craft, and aesthetics of acting. Through a series of basic exercises and improvisational studies specialized skills in action, subtext, environment, sensory awareness, characterization, language, and script analysis are developed in the context of a variety of theatrical styles which are rotated each semester. **Notes** May be repeated to a maximum of twelve credits. **Prerequisites** Consent of instructor.

THTR 773 Credits 1-4
Scene Study
Repertory course for actors and directors. Rotating scene material selected each semester from the canon of theatrical literature and may include contemporary drama, classical American realism, Shakespeare, Greek and Roman drama, Comedy of Manners, musical theatre, original scripts, Modernism, the avant garde, television & film, and performance. **Notes** May be repeated to a maximum of twelve credits. **Prerequisites** Graduate status, consent of instructor.

THTR 775 Credits 1-4
Sound and Movement Studio
Integrated voice and body course designed specifically for the actor to increase strength, flexibility, range, control, placement, coordination, and efficiency. Exercises and improvisational studies are designed specifically to address the psycho-physical aspects of dramatic action and character transformation. **Notes** May be repeated to a maximum of twelve credits. **Prerequisites** Instructor approval.

THTR 777 Credits 1
Movement for the Actor
Rotating course in various movement disciplines which have practical application to the art and craft of acting. Topics may include the Alexander Technique, the Feldenkrais Method, Pilates techniques, Suzuki, yoga, tai chi, weight training, aerobics, stage combat, mime, clown, circus techniques, improvisation, and movement for period style. **Notes** May be repeated to a maximum of twelve credits. **Prerequisites** Consent of instructor.

THTR 778 Credits 3
Problems in Makeup
Study and practical experience in the art of makeup. **Notes** May be repeated to a maximum of six credits.

THTR 779 Credits 1-4
Speech for the Actor
Technical course in articulation and pronunciation for the actor. Vocal anatomy and physiology, the International Phonetic Alphabet, phrasing, linkage, syllabication, stress, and vowel length explored for clarity, efficiency, coordination, dexterity, and control in the formation of the sounds of spoken English. **Notes** May be repeated to a maximum of eight credits. **Prerequisites** Consent of instructor.

THTR 781 Credits 1
Dance for the Actor
Laboratory course in the technique and aesthetics of dance. Different dance forms of styles rotated each semester may include ballet, modern, jazz, tap, ballroom, and musical theatre dance.

THTR 791 Credits 2
Commerce of Theatre
Study of theatre contracts, unions, legal, management, and practical business/market concerns.

THTR 793 Credits 1 – 3
Special Topics in Theatre
Selected topics announced including master classes. **Notes** May be repeated to a maximum of six credits.

THTR 795 Credits 1 – 4
Supervised Individual Study
Designed only for those students whose degree program requires a project in lieu of thesis and to be used only in connection with that project. **Notes** Must be taken for the maximum four credit hours, but these hours should normally be spread over at least two terms. A student may not register for this course until the project supervisor has been designated and the project tentatively established.

THTR 796 Credits 1 – 12
Internship
Internship at regional centers of theatre activity. **Notes** May be repeated to a maximum of 12 credits. **Prerequisites** Subject to M.F.A. program requirements.

THTR 797 Credits 1 – 12
Creative Project
Planning and execution of a major creative proposal as a thesis production and project. **Notes** May be
repeated to a maximum of twelve credits.

**Prerequisites** Subject to M.F.A. program requirements.

**THTR 798**  
**Credits 1 – 6**  
**Thesis**  
Must be taken for a maximum of six hours, but these hours normally should be spread over at least two terms. A student may not register for this course until the thesis director has been designated and the topic tentatively established. **Notes** May be repeated to a maximum of six credits. **Grading** S/F grading only.  
**Prerequisites** Graduate standing.
Division of Health Sciences

The health issues facing our local, state, and national governments are complex, and the solutions will require research, innovation, and collaboration from individuals and agencies representing the full spectrum of health and wellness.

UNLV’s Division of Health Sciences — along with other health science-related programs in the Nevada System of Higher Education — is addressing today’s pressing needs and making tomorrow’s discoveries.

The division is comprised of the schools of Dental Medicine, Nursing, Public Health and Allied Health. Guided by a mission that demands UNLV serves its community, the division is using research, education, training, and service to form unique public and private partnerships. These partnerships are helping provide quality health care to the underserved, educating future professionals, and exploring ways to improve the health and well-being of our citizens. Taken together, UNLV is helping build a foundation for a healthier and more vibrant Nevada.

Division of Health Sciences
Departments and Schools

School of Allied Health Sciences
- Health Physics & Diagnostic Sciences
- Kinesiology & Nutrition Sciences
- Physical Therapy

School of Nursing

School of Dental Medicine

School of Community Health Sciences

Degree Programs
- Public Health M.P.H.
- Health Care Administration M.H.A.
- Health Promotion M.Ed.
- Public Health Ph.D.
School of Allied Health Sciences

The School of Allied Health Sciences provides undergraduate and graduate education to students interested in studying one of the many different health sciences curriculums. The curricula are designed to prepare students to readily assume health-related employment opportunities or continue on with further graduate or professional studies. Educational experiences include rigorous classroom instruction, laboratory/clinical practice (on and off campus sites), research opportunities with faculty, and professional mentoring. It is a goal of the School of Allied Health Sciences faculty to produce graduate students who are professionally competent, thoroughly capable of critical thinking, and highly sought after by employers. Graduates will exhibit high ethical professional standards, be devoted to lifelong learning and be prepared to respond to local, regional or national level demands in their fields of study.

Health Physics & Diagnostic Sciences

The Department of Health Physics emphasizes the environmental aspects of radioactivity, safety, environmental issues associated with radioactive waste disposal, and the use of photodynamic therapy to treat cancer. Graduate Degree in Health Physics.

Kinesiology & Nutrition Sciences

Provides a program of study in the science of human movement for students interested in the allied health professions. The Department is committed to an interdisciplinary approach to professional preparation and scholarship. Graduate degrees in Kinesiology and Exercise Physiology.

Physical Therapy

Physical therapy is considered a specialty area in the health care field that concentrates on the prevention of disability and the physical rehabilitation following injury or impairment. The goals of physical therapy are to help patients regain diminished physical function, which has been lost secondary to injury or disease, and to relieve pain. Doctor of Physical Therapy (DPT).

Display Courses
Health Physics & Diagnostic Sciences

Chair
Madsen, Steen
(1997), Associate Professor; B.S., University of Toronto; M.S., Ph.D., McMaster University.

Graduate Coordinator
Patton, Phillip
(2000), Associate Professor; B.S., Augusta College; M.S., University of Georgia; M.S., Ph.D., University of Florida.

Graduate Faculty
Cheney, Marcos A.
(2005), Assistant Professor; B.S., University of Baja California, Enseneda; M.S., Ph.D., University of California, Davis.

Hirschberg, Henry
(2006), B.E.E. City University New York; M.D., Ph.D., University of Oslo, Norway.

Riland, Carson A.
(1996); B.S. Bloomsburg University; M.S., Ph.D. Texas A&M University.

Sudowe, Ralf
(2006), Assistant Professor; Dipl.-Chem, Dr. rer. nat., Philipps Universitat Marburg, Germany.

Many industries, medical facilities, and research laboratories demand professionals who understand radiation hazards, their prevention and control. Prominent among scientists is the health physicist, who controls the beneficial use of ionizing radiation while protecting workers and the public from potential hazards. Our M.S. program provides students with instruction and research opportunities in the field of radiation protection with emphasis on environmental health physics, radioactive waste management, radiation dosimetry, medical physics, and medical health physics. The Department of Health Physics faculty look forward to working with prospective students in this challenging program of study.

Health physics is the profession dedicated to the protection of the individual, the population, and the environment from the potentially harmful effects of radiation. It incorporates the principles and technical skills from many disciplines: physics, chemistry, biochemistry, biology, mathematics, ecology, toxicology, and industrial hygiene. The wide spectrums of knowledge required of the health physicist make this profession both challenging and rewarding.

The Master of Science (M.S.) in Health Physics is designed to prepare students in the field of health physics to administer public and private radiation health programs; investigate medical uses of radioactivity; measure and control radiation in the workplace and the environment; ensure compliance with radiation protection regulations; assist in the cleanup of radioactive and hazardous waste sites; evaluate worker, patient, and public radiation doses; and conduct research in radiation protection.

The Program Educational Objectives for the M.S. in Health Physics Program are as follows:

1. Graduates will demonstrate competency in applying the theoretical and problem solving aspects of health physics and related disciplines.
2. Graduates will demonstrate competency in the practical applications of health physics.
3. Graduates will effectively communicate technical information in both oral and written form.
4. Graduates will be competent in research methods and be able to critically review research with the intent of applying findings to their practice.
5. Graduates will be prepared to pursue a lifetime of self-directed learning and professional development.

6. Graduates will conduct themselves in a professional and ethical manner. Follow this link for more information about the Division of Health Sciences.

Program

- Health Physics M.S.

Return to: School of Allied Health Sciences

Health Physics M.S.

Admission Requirements

Applications for admission may be obtained by contacting the Department of Health Physics or the Graduate College. Completed applications, official Graduate Record Examination (GRE) scores and one copy of official transcripts from all institutions attended after high school are submitted to the Graduate College. All other data (i.e., letters of recommendation and statement of professional goals) are submitted directly to the Department of Health Physics.

Students seeking admission to the graduate program in health physics must fulfill the following admission requirements:

1. Overall GPA of 3.00 (A=4.00 or equivalent) in undergraduate work. Applicants with a GPA below 3.00, but not less than 2.75, may be admitted as a graduate provisional student.

2. Successful completion (grade of C or better) of the following course work: a. Seven-semester credits in biology including an introductory modern biology course and one higher level course b. Ten-semester credits in chemistry or geology including a general chemistry sequence and one higher-level course c. Eight-semester credits in elementary calculus (mathematics through differential equations is recommended) d. Twelve-semester credits in physics including a general physics sequence e. A course in computer programming (an additional course in numerical methods or scientific computing is recommended) Applicants not meeting a limited number (maximum of nine credit hours) of prerequisite requirements may still be admitted to the program. However, prerequisite requirements may still be admitted to the program. However, prerequisite deficiencies must be completed during the first year of study and prior to registering for HPS 796 or 797.

3. Completion of a baccalaureate degree in health physics, one of the basic sciences, or in a closely related scientific or engineering field. Applicants holding a degree in a non-related field may be given special consideration if they have completed all prerequisite course work.

4. A composite score of 1,000 or higher on the verbal and quantitative sections of the Graduate Record Exam (GRE).

5. Three letters of recommendation from former instructors or employers that speak to the applicant’s potential as a graduate student. The individual writing the letter may use the form available from the Graduate College, which includes a release form for the student to sign.

6. A statement of approximately 300 words indicating the student’s professional goals and reason for seeking graduate education.

7. International applicants whose native language is not English must show competency in the English language before they can be admitted. A satisfactory score (minimum 550 on the written or 213 on the computerized version) on the “Test of English as a Foreign Language” (TOEFL) or comparable evidence of competency in English must be submitted by students as part of their application.
Progression

To progress in the program students must:

1. Maintain a cumulative grade point average of 3.00 or above each semester enrolled.
2. Receive a grade of B (3.00) or above in all core health physics courses. If less than a B is earned, the course may be repeated. The student must be in good standing to repeat a course, and any core course may be repeated only once.
3. A student may register for a course only twice. A student who registered for the same core course twice and has received a grade less than B is ineligible for readmission unless unanimously approved by Health Physics Program graduate faculty.
4. Complete a minimum of six semester hours in each calendar year.
5. Pass the comprehensive oral examination.
6. Continuously register for three credit hours of:
   HPS 796 - Professional Paper or:
   HPS 797 - Thesis each semester while working on the thesis or professional paper until completion.

Advisement

The Health Physics Graduate Program Director will serve as academic advisor to all entering students for program planning. At the time the student selects his/her examination committee, the committee chairperson becomes the student’s official advisor.

Graduation Requirements

Students in the M.S. in Health Physics Program must adhere to the following requirements for graduation:

1. Residency Credits. A minimum of 20 credits exclusive of thesis or special topic project must be earned at UNLV. A minimum of 15 credits must be accumulated within the School of Health and Human Sciences.

Degree Requirements

Requirements for the Master of Science in Health Physics include completion of 37 semester hours in required and elective graduate courses. These requirements will be established in consultation with the student’s advisor in accordance with the Department of Health Physics and Graduate College policy and shall include:

1. Health Physics Core (21 credits):
   HPS 602 - Radiation Detection
   HPS 603 - Radiation Physics and Instrumentation Laboratory
   HPS 701 - Applied Nuclear Physics
   HPS 703 - Radiation Interactions and Transport

Attendance at the University of Nevada, Reno does not interrupt, but does not contribute to, residency credits, because this institution is within the University and Community College System of Nevada.

2. Credit by Challenge Examination. Graduate courses in the Health Physics program may not be challenged for credit.

3. Six-year Completion Rule. All degree requirements must be completed within six calendar years from the date of matriculation. No credit may be used in an advanced degree program for course work completed more than six calendar years immediately preceding the term in which all degree requirements are completed.

4. Allotment of Credits. Students have a choice of catalog under which they wish to graduate a) the year of official matriculation or b) the year of graduation. Students are encouraged to meet the requirements of the current catalog.

5. A final oral examination will be held following completion of the thesis or professional paper resulting from a special topics project. The final examination must be held at least three weeks prior to the last day of instruction in the term in which the student plans to complete the degree requirements.
HPS 720 - Radiation Dosimetry
HPS 730 - Advanced Radiation Biology
HPS 791 - Graduate Seminar (three times)

2. Completion of thesis or professional paper (6 credits)
   HPS 797 - Thesis
   HPS 796 - Professional Paper

3a. Environmental Health Physics Core (4 credits):
    HPS 718 - Radiochemistry Laboratory
    HPS 719 - Introduction to Radioanalytical Chemistry

3b. Environmental Health Physics Electives (9 credits):
    Graduate-level health physics or other approved graduate-level courses. These include: HPS 616 HPS 670 HPS 680 HPS 750 HPS 760

4. Medical Physics Core (12 credits)
   HPS 740 - Medical Imaging Physics
   HPS 740L - Diagnostic Medical Physics Clinical Rotation and Laboratory
   HPS 742 - Radiation Therapy Physics
   HPS 742L - Therapy Physics Clinical Rotation and Lab
   HPS 795 - Independent Study

5. Comprehensive Examination: The comprehensive oral exam will be taken by all students after completion of the second semester of enrollment in the program. The exam will be pass/fail. Students who fail the exam may re-take the exam at the end of their third semester of enrollment. Students who fail their second attempt will be separated from the program. Students may not defend their thesis prospectus until successful completion of the oral exam. The exam will be administered by at least three graduate faculty from Health Physics plus the student's Graduate College Representative.

Program of Study

Environmental Health Physics Option:

Semester 1: 10 Credits
   HPS 701 - Applied Nuclear Physics
   HPS 730 - Advanced Radiation Biology
   HPS 791 - Graduate Seminar
   Elective

Semester 2: 9 Credits
   HPS 602 - Radiation Detection
   HPS 603 - Radiation Physics and Instrumentation Laboratory
   HPS 703 - Radiation Interactions and Transport

Semester 3: Any required prerequisite

Semester 4: 11 Credits
   HPS 718 - Radiochemistry Laboratory
   HPS 719 - Introduction to Radioanalytical Chemistry
   HPS 720 - Radiation Dosimetry
   HPS 791 - Graduate Seminar
   HPS 796 - Professional Paper

Semester 5: 10 Credits
   HPS 791 - Graduate Seminar
   HPS 796 - Professional Paper
   Elective
   Elective

Medical Physics Option:

Semester 1: 7 Credits
   HPS 701 - Applied Nuclear Physics
   HPS 730 - Advanced Radiation Biology
   HPS 791 - Graduate Seminar

Semester 2: 12 Credits
   HPS 602 - Radiation Detection
   HPS 603 - Radiation Physics and Instrumentation Laboratory
   HPS 703 - Radiation Interactions and Transport
   HPS 740 - Medical Imaging Physics

Semester 3: HPS 796 - Professional Paper 3 Credits

Semester 4: 7 Credits
   HPS 720 - Radiation Dosimetry
   HPS 742 - Radiation Therapy Physics
   HPS 791 - Graduate Seminar
Semester 5: 11 Credits
HPS 740 - Medical Imaging Physics
HPS 742L - Therapy Physics Clinical Rotation and Lab
HPS 791 - Graduate Seminar
HPS 795 - Independent Study
HPS 796 - Professional Paper

HPS 602
Radiation Detection
This course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

HPS 603
Radiation Physics and Instrumentation Laboratory
This course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

HPS 616
Credits 3
Advanced Health Physics
Solutions to problems pertaining to radiation safety in the environment, industry, medical facilities, and nuclear reactors. Topics include shielding, accelerators, radon, nonionizing radiation, and radiation dose effect. Prerequisites HPS 300 and HPS 402, or equivalent.

HPS 670
Environmental Health Physics
This course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

HPS 680
Industrial Hygiene
This course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

HPS 701
Credits 3
Applied Nuclear Physics
Atomic and nuclear structure; decay energetics and kinetics; interactions of radiation with matter; radiation protection standards; practical aspects of radiation protection; photon, neutron, beta and Xray shielding; criticality; radiation protection at reactors, accelerators and medical facilities; radioactive material transportation regulations.

HPS 702
Credits 3
Radiation Detection and Transport
Detection of ionizing radiation, counting statistics, and radiation transport modeling. Prerequisites HPS 701, STA 161 or 491, or consent of instructor. Corequisite HPS 718

HPS 703
Credits 3
Radiation Interactions and Transport
Decay energetics and kinetics; interactions of radiation with matter, radiation protection standards; practical aspects of radiation protection; photon, neutron, beta, and xray shielding, radioactive material transportation regulations, radiation transport Prerequisites HPS 701.

HPS 718
Credits 3
Radiochemistry Laboratory
Laboratory experiments in radiation detection, counting statistics and radiochemical separations are discussed. The operation and calibration of alpha and gamma ray spectrometry equipment and liquid scintillation counters will be examined. Radiochemical separation and analysis of environmental samples are performed. Novel and standard procedures for sample examination will be covered. Prerequisites Consent of instructor. Corequisite HPS 602

HPS 719
Credits 1
Introduction to Radioanalytical Chemistry
Introduction to the principles and concepts of radioanalytical chemistry, such as the use of tracers, carriers and spikes and isotope dilution analysis. Sample preparation and techniques for radioanalytical separations and source preparation. Differences between macro chemistry and tracer chemistry. Prerequisites HPS 602.

HPS 720
Credits 3
Radiation Dosimetry
Mathematical treatment of the fundamental principles of internal and external radiation dosimetry. Pathway models and bioassay techniques studied to support
the calculation of radiation dose from the intake of radioactivity. General external dosimetry from a variety of industrial and medical sources is addressed. **Prerequisites** HPS 701 or consent of instructor.

**HPS 730  Credits 3**  
**Advanced Radiation Biology**  
Topics covered include: physics and chemistry of radiation absorption, cell survival curves, repair of radiation damage, radiation carcinogenesis, risk assessment models, cancer biology, model tumor systems, and dose fractionation in radiotherapy.

**HPS 740  Credits 3**  
**Medical Imaging Physics**  
Conceptual, mathematical, and diagnostic aspects of commonly used clinical imaging modalities including filmscreen radiography, computed tomography, magnetic resonance imaging, single photon emission computed tomography, positron emission tomography, and ultrasound. **Prerequisites** HPS 701 or consent of instructor.

**HPS 740L  Credits 3**  
**Diagnostic Medical Physics Clinical Rotation and Laboratory**  
Covers the quality control and assurance aspects of commonly used clinical diagnostic modalities including filmscreen and digital radiography, mammography, computed tomography, magnetic resonance imaging, single photon emission computed tomography (SPECT), and positron emission tomography (PET). **Prerequisites** HPS 701  
**Corequisite** HHPS 740 or consent of instructor.

**HPS 742  Credits 3**  
**Radiation Therapy Physics**  
Use of ionizing and nonionizing radiation in radiation therapy to cause controlled biological effects in cancer patients. Emphasis on external treatment techniques using photon and electron beams, internal treatment techniques, and treatment planning. **Prerequisites** HPS 701 or consent of instructor.

**HPS 742L  Credits 3**  
**Therapy Physics Clinical Rotation and Lab**  
An introductory course dealing with the practical aspects of clinical therapeutic physics. Labs will be performed in a clinical setting and students will be introduced to the technology and procedures commonly encountered in a modern radiation therapy facility. **Prerequisites** HPS 742.

**HPS 750  Credits 3**  
**Radiation Risk Assessment**  
Descriptive and mathematical treatment of radionuclide transport, bioaccumulation, and human uptake. **Notes** Risk analyses based on recent epidemiological studies reviewed. **Prerequisites** HPS 670 or consent of instructor.

**HPS 760  Credits 3**  
**Environmental Restoration and Radioactive Waste Management**  
Overview of the cleanup and management of radioactive and mixed wastes in the federal and private sector. Role of radiation protection personnel in radioactive waste management activities discussed. **Prerequisites** HPS 701 or consent of instructor.

**HPS 772  Credits 3**  
**Environmental Radiation Measurements**  
Laboratory sessions provide practical experience with techniques to evaluate the presence of radioactivity in environmental media. Topics include environmental radiation sources, environmental monitoring plans, sample collection and analysis, in situ gamma ay spectrometry, data interpretation and laboratory quality control. **Notes** One hour lecture and three hours laboratory. **Prerequisites** HPS 670 and HPS 718 or consent of instructor.

**HPS 781  Credits 3**  
**Industrial Hygiene II**  
Overview of the major physical and biological hazards in the industrial environment emphasizing recognition, monitoring technology, engineering control methodology, and best practice. **Prerequisites** HPS 680 or consent of instructor.

**HPS 791  Credits 1**  
**Graduate Seminar**  
Overview of research methods, ethics, professional development, and technical communications related to health physics. Students prepare and give seminars on topics of interest in health physics. **Notes** May be repeated for a maximum of three credits.

**HPS 795  Credits 1 – 3**  
**Independent Study**
Individual directed study of a topic in health physics not covered in depth in other courses. **Notes** May be repeated to a maximum of six credits. **Prerequisites** Graduate standing in health physics and consent of instructor.

**HPS 796**
**Credits 3**
**Professional Paper**
Discussion of the components of a research proposal, writing a research proposal, and conducting pilot projects. **Notes** May be repeated but only six credits applied to the student's program. **Grading** S/F grading only. **Prerequisites** HPS 620, HPS 701, graduate standing in health physics, and consent of instructor.

**HPS 797**
**Thesis**
**Credits 3**
**Notes** May be repeated but only six credits applied to the student's program. **Grading** S/F grading only. **Prerequisites** HPS 620, HPS 701, graduate standing in health physics, and consent of instructor.

**HSC 777**
**Advanced Applied Statistics for the Health Sciences**
Application of advanced statistical procedures to the investigation of research problems in the health science professions. Emphasis on a conceptual understanding of selected advanced statistical techniques with application to the investigation and analysis of problems in the health sciences area. **Prerequisites** Introductory course in statistics and introduction to research methodology course or consent of instructor.
Kinesiology & Nutrition Science

Chair
Young, John C. (1991), Professor; B.S.Ed., M.S., University of Michigan; Ph.D., University of Wisconsin, Madison.

Graduate Coordinator
Tandy, Richard D. (1989), Associate Professor; B.S., Appalachian State University; M.S., Ph.D., Texas A&M University.

Graduate Admissions Coordinator
Wulf, Gabriele (2001), Professor; Diploma, Ph.D., Deutsche Sporthochschule Köln; Ph.D., University of Munich.

Graduate Faculty
Dufek, Janet S. (2002), Associate Research Professor, B.S. University of Wisconsin, Superior; M.S. Illinois State University; Ph.D. University of Oregon.

Golding, Lawrence A. (1976), Distinguished Professor; B.S., M.S., Ph.D., University of Illinois.

Guadagnoli, Mark A. (1991), Professor; B.S., M.S., Texas A&M University; Ph.D., Auburn University.

Holcomb, William R. (2001), Associate Professor; B.S. Berry College; M.S. U.S. Sports Academy; Ph.D. Auburn University.

Kruskall, Laura J. (1999), Associate Professor; B.A. Mount Saint Mary College; M.S. Columbia

Mangus, Brent C. (1985), Associate Professor; B.S., Utah State University; M.S., University of Oregon; Ed.D., University of Utah.

Mercer, John (1999), Associate Professor; B.S., Buffalo State College of New York; M.S., University of North Texas; Ph.D., University of Oregon.

Rubley, Mack (2001), Assistant Professor; B.S., University of Colorado; M.S., Pennsylvania State University; Ph.D., Brigham Young University.

Kinesiology is the study of human movement as it relates to human performance. The graduate degrees offered by the Department of Kinesiology and Nutrition Sciences are designed to prepare students for advanced study in biomedical sciences, clinical positions, and leadership positions in instituting physical fitness programs in public and private organizations. The department is committed to an interdisciplinary approach to professional preparation and scholarship and to creating an environment in which both basic and applied research in the field of kinesiology is stimulated. Comprehensive laboratories have been developed for the study of human performance, injury rehabilitation, and skill acquisition.

Students are afforded the opportunity to work closely with faculty in all areas of academics and research. The faculty are recognized internationally through their scholarship and research and are enthusiastically committed to graduate education.

Department of Kinesiology and Nutrition Sciences offers programs of study that lead to a Master of Science degree in Exercise Physiology or Kinesiology. These degree programs allow students a choice of preparation and opportunities to specialize in biomechanics, exercise physiology, motor learning/motor control and sports medicine. The goal of the graduate program in kinesiology is to provide
students with the theory, knowledge, and skills necessary to apply the principles of human movement in a variety of community, research, clinical, or athletic settings, or to pursue advanced study at the doctoral level.

**Programs**

- Exercise Physiology M.S.
- Kinesiology M.S.

Return to: School of Allied Health Sciences

**Exercise Physiology M.S.**

The Master of Science in Exercise Physiology is designed to provide the student with an understanding of the physiological effects of exercise on the human body. The program also emphasizes the effect of regular exercise on adults and offers students experience in conducting physical fitness evaluations, and exercise testing. In addition, the graduate is prepared for entrance into a doctoral program in exercise physiology.

The program emphasizes academic preparation in exercise physiology, laboratory experience, knowledge of research methodology, and statistics. Students must complete a thesis in the general area of exercise physiology.

**Admission Requirements**

Students are admitted in the fall, spring, and summer semesters. Applicants for admission must have an undergraduate major in kinesiology, exercise science, physical education, athletic training, biology, nutrition, or a related academic discipline.

Applicants must have a minimum overall undergraduate grade point average of 2.75 (A=4.0), or 3.00 (A=4.0) in the last two years. The Graduate Record Examination must be taken prior to applying.

Successful applicants generally have a 3.00 undergraduate grade point average and a combined score of 1000 on verbal and quantitative sections of the GRE and higher than 3.5 on the analytical section.

Interested applicants must send the following information to the Graduate College:

1. A completed application for graduate studies.
2. Official transcripts of all colleges and universities attended.

Interested applicants must send the following information to the Department of Kinesiology:

1. Copies of all transcripts sent to the Graduate College.
2. Official GRE scores.
3. A letter of intent that addresses: Reason(s) for wishing to earn an advanced degree. Motivation for attending UNLV. Summary of educational goals. Summary of research activities and interests. Possible faculty mentors.
4. Two letters of recommendation from persons familiar with the applicant’s academic record and potential for graduate study.

**Degree Requirements**

The Master of Science in Exercise Physiology requires a minimum of 33 credit hours. The curriculum for the M.S. in Exercise Physiology consists of the following courses:

**Core Courses**

- KIN 605 - Sports Nutrition
- KIN 738 - Human Physiology
- KIN 739 - Evaluation of Physical Working Capacity
- KIN 740 - Advanced Exercise Physiology
- KIN 741 - Independent Study in Exercise Physiology I
  or
- KIN 742 - Independent Study in Exercise Physiology II
KIN 751 - Selected Application of Statistical Techniques I
KIN 750 - Research Methods
KIN 749 - Thesis

Kinesiology M.S.

The Master of Science in Kinesiology is designed for students interested in the study of human performance. Students are provided with the theoretical foundations of the movement-based sciences and select an emphasis in biomechanics, motor learning/control, or sports medicine. Through involvement in directed research projects, students obtain an in-depth understanding of laboratory equipment research and applications in the biomedical sciences. Graduates are prepared to make applications of the movement sciences in research, clinical, or athletic settings and for entrance into doctoral programs in kinesiology.

Admission Requirements

Students are admitted in the fall, spring, and summer semesters. Applicants for admission must have an undergraduate major in kinesiology, exercise science, physical education, athletic training, biology, nutrition, or a related academic discipline.

Applicants must have a minimum overall undergraduate grade point average of 2.75 (A=4.0), or 3.00 (A=4.0) in the last two years. The Graduate Record Examination (GRE) is not required for admission except in cases where the department requests it be taken. Successful applicants generally have a 3.00 undergraduate grade point average and a combined score of 1000 on verbal and quantitative sections of the GRE and higher than 3.5 on the analytical section. Interested applicants must send the following information to the Graduate College:

1. A completed application for graduate studies.
2. Official transcripts of all colleges and universities attended.

Interested applicants must send the following information to the Department of Kinesiology:

1. Copies of all transcripts sent to the Graduate College.
2. Official GRE scores (when requested by the Kinesiology Department).
3. A letter of intent that addresses: Reason(s) for wishing to earn an advanced degree. Motivation for attending UNLV. Summary of educational goals. Summary of research activities and interests. Possible faculty mentors.
4. Two letters of recommendation from persons familiar with the applicant’s academic record and potential for graduate study.

Degree Requirements

The Master of Science in Kinesiology requires a minimum of 35 credit hours. The curriculum for the M.S. in Kinesiology consists of the following:

Core Courses - Total Credits: 9
Students must complete one course from each of three areas: biomechanics, motor learning/motor control, exercise physiology.

Research Tools - Total Credits: 9
KIN 750 - Research Methods
KIN 751 - Selected Application of Statistical Techniques I

Specialization - Total Credits: 9

Thesis Option - Total Credits: 9

Non-Thesis Option - Total Credits: 9

Sports Education Leadership Ph.D.

The Ph.D. program is designed specifically for professionals who desire administrative positions in postsecondary education. The Ph.D. program offers academic concentrations in physical education teacher education, administration.

Admission Requirements
Admission to doctoral study in the Department of Sports Education Leadership will be granted to qualified applicants based on a combination of the following:

1. A master’s degree from an accredited college or university
2. Official copies of all postsecondary transcripts
3. Professional vita or resume
4. Evidence of writing ability with appropriate examples including excerpt from a master’s thesis, professional paper, or published article
5. Three letters of recommendation from previous instructors and/or professional colleagues attesting to the applicant’s ability to complete doctoral study
6. A detailed statement explaining why the student desires admission to the program
7. A personal interview with the department graduate faculty. Interviews will be held in March.
8. Satisfactory GRE test scores (taken within five years from the date of application for admission)
9. TOEFL scores are required of international students with a preferred minimum of 550 for the written exam, 213 for the computerized exam, or 80 for the internet-based exam.

Admission Process

Applications for the Ph.D. program will be considered once per year and deadline for receipt of application is March 1. Application forms, fees, and official transcripts should be sent to the Graduate College online. Further admission information and application forms may be obtained from the UNLV Graduate College website at: http://graduatecollege.unlv.edu/admissions. Three letters of recommendation, professional resume or vita, GRE scores, official copies of all college transcripts, evidence of writing ability (e.g., excerpt from masters’ thesis, professional paper or published article), a detailed statement explaining why the student desires admission, and a statement demonstrating evidence of professional/educational compatibility with program goals should be submitted to the Department of Sports Education Leadership, University of Nevada, Las Vegas, 4505 S. Maryland Parkway, Box 453031. As a final step in the admission process, a personal interview with the graduate faculty will be conducted.

Degree Requirements

The Ph.D. in Sports Education Leadership will consist of a minimum of 66 credit hours beyond the master’s degree to include the following areas: content knowledge (18); two 9 hour cognate areas (18); research methodology (15); and the culminating experience of prospectus (3) and dissertation (12). Individual programs of study may exceed minimum requirements and specific course work will vary depending on particular interest. Students must maintain a GPA of 3.00 or higher for all course work taken at the doctoral level.

Scholarly Product Requirement

Each student must satisfy a scholarly product requirement. This requirement can be met in one of two ways:

1. Students may submit a research study to a refereed journal for publication.
2. Students may submit a proposal for presentation of research at an annual conference of a national organization.

Student Advisory Committees

Students are required to select a graduate advisory committee before completing 16 hours or by the sixth week for the first semester of admission if 12+ hours, taken prior to admission, is considered part of the degree program. Advisory committees must consist of three Sports Education Leadership graduate faculty members (one of which can be an associate graduate faculty member) and a graduate college representative from outside of the department. The
chair of the advisory committee must be a graduate faculty member in the Department of Sports Education Leadership. Advisory committees should be informed prior to the student’s completion of 16 credit hours. The committee oversees the student’s progress, including the comprehensive exams. A temporary advisor is assigned until the student becomes acquainted with the faculty and selects his/her advisory committee.

Comprehensive Examination

The student takes the comprehensive examination during the semester immediately preceding enrollment in dissertation. The comprehensive examination consists of six questions in which the student is allotted two hours per question. Questions are constructed and scored by the student’s advisory committee. Students must file intent to take comprehensive examinations, adhering to timelines cited for other graduate programs scheduled by the Graduate College and the Department of Sports Education Leadership. Students may petition the Sports Education Leadership Graduate Faculty for permission to take comprehensive examinations pending approval of the advisory committee.

The questions on the comprehensive examination address elements of content knowledge, research methodology, and related discipline electives. The student’s advisory committee provides general parameters from which questions are selected. “Take-home” examinations, in whole or in part, are not allowed. Students may use college provided technology for word-processing. Grading consists of two categories: Pass and Fail.

Upon receiving a passing grade for the written comprehensive examination, students will be required to pass an oral examination by their respective advisory committees. Students must successfully complete the written and oral comprehensive examinations before enrolling in dissertation hours.

Dissertation Proposal and Defense

Following the successful completion of the written and oral comprehensive examinations, the student must submit a dissertation proposal to the Doctoral Advisory Committee and submit the accompanying “Dissertation Prospectus Approval” form from the Graduate College. The Doctoral Advisory Committee will determine the acceptability of the prospectus.

Upon approval of the prospectus, the student must obtain approval for the study from the Institutional Review Board for the Protection of Human Subjects.

Upon completion of the dissertation, a defense will be scheduled and conducted in accordance with the Graduate College’s policy for dissertation completion. Students should obtain The Graduate Study Guide and the Guide to Preparing and Submitting a Thesis or Dissertation from the Graduate College web site.

It is the student’s responsibility to file all required paperwork (Dissertation Prospectus Approval, Appointment of Advisory Committee, Proposed Degree Program, etc.) to the Graduate College in a timely manner.

CLS 612 Clinical Immunology
This course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

CLS 613 Clinical Immunology Laboratory
This course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

CLS 614 Transfusion – Immunohematology
This course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

CLS 615
Transfusion Medicine Immunohematology Laboratory
This course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

CLS 622
Clinical Hematology I
This course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

CLS 623
Clinical Hematology Laboratory I
This course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

CLS 624
Clinical Hematology II
This course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

CLS 625 - Clinical Hematology Laboratory II
This course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

CLS 632
Clinical Microbiology I
This course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

CLS 633
Clinical Microbiology Laboratory I
This course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

CLS 634
Clinical Microbiology II

This course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

CLS 635
Clinical Microbiology Laboratory II
This course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

CLS 642
Clinical Chemistry I
This course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

CLS 643
Clinical Chemistry I Laboratory
This course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

CLS 644
Clinical Chemistry II
This course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

CLS 645
Clinical Chemistry II Laboratory
This course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

CLS 653
Seminar in CLS IV
This course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

CLS 681
Clinical Practicum in Hematology
This course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

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<tr>
<th>Course Code</th>
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<td>History of Exercise and Sport Science</td>
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<td>KIN 614</td>
<td>Enhancing Mental and Motor Abilities</td>
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<td>KIN 615</td>
<td>Introduction to Forensic Kinesiology</td>
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<td>KIN 656</td>
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<td>KIN 695</td>
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<tr>
<td>KIN 700</td>
<td>Credits 1 – 6</td>
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Special Problems in Kinesiology
Specialized instruction and/or research designed to develop depth in understanding a current kinesiology problem. Notes May be repeated to a maximum of six credits. Prerequisites Consent of instructor.

KIN 730 Credits 3
Organization and Administration of Athletic Training
Develop and utilize organization and administrative theories and philosophies in managing facilities, co-workers and students in a variety of athletic settings.

KIN 731 Credits 3
Orthopedic Assessment in Sports Medicine
Theory and methods of orthopedic assessment as they relate to the understanding, evaluation, treatment, and rehabilitation of sport injuries. Emphasis on advanced understanding of the theoretical applications of advanced assessment techniques for orthopedic injuries. Prerequisites Consent of instructor.

KIN 733 Credits 3
Psychological Aspects of Sport and Rehabilitation
Overview of theoretical concepts and techniques in sport psychology. Emphasis on the application of psychology to human movement, skilled athletic performance, and injury rehabilitation.

KIN 734 Credits 3
Therapeutic Intervention in Sports Medicine
Theoretical background in the application of therapeutic intervention in a practical setting.

KIN 735 Credits 3
Sports Medicine Rehabilitation Principles and Practices
Provides opportunity to study theory and techniques of various exercise rehabilitation processes and apply these processes on a case study basis. Prerequisites: Graduate standing and consent of instructor.

KIN 736 Credits 3
Biomechanical Applications in Kinesiology
Provides opportunity to learn mechanical principles underlying human movement and apply these skills in a laboratory situation. Prerequisites Graduate standing and consent of instructor.

KIN 737 Credits 3
Biomechanics of Strength
Interdisciplinary examination of concepts and principles involved in strength development and force production. Includes study of neurological, physiological and mechanical factors affecting force/tension/power generation, and biomechanical interactions with external loads and various resistance training equipment. Prerequisites Graduate standing or consent of instructor.

KIN 738 Credits 3
Human Physiology
Study of mechanisms which regulate physiological systems and the way regulation functions to maintain homeostasis. Emphasis on those systems involved in the integrated response to exercise. Prerequisites Consent of instructor, undergraduate course in anatomy and physiology.

KIN 739 Credits 3
Evaluation of Physical Working Capacity
Concepts and methodology in the measurement of energy metabolism in humans. Examination of the various methods used to measure physical working capacity with the treadmill and ergometry. Understanding of basic electrophysiology of myocardium and pulmonary function measurements. Prerequisites Consent of instructor.

KIN 740 Credits 3
Advanced Exercise Physiology
Lecture, discussion, and laboratory experiences dealing with impact of acute and chronic exercise on several systems. Selected topics such as nutrition and exercise, weight control, physical working capacity, and body composition. Prerequisites KIN 739

KIN 741 Credits 3
Independent Study in Exercise Physiology I
Individually arranged programs of in-depth study on selected topics in exercise physiology. Emphasis on respiratory gas analysis, human calorimetry, exercise electrocardiography, body composition, and physical work capacity. **Prerequisites** Advanced graduate standing in exercise physiology and consent of instructor.

**KIN 742**
Individually arranged programs of in-depth study on selected topics in exercise physiology. Emphasis on respiratory gas analysis, human calorimetry, exercise electrocardiography, body composition, and physical work capacity. **Prerequisites** KIN 741

**KIN 743**
**Credits 3**
Research Techniques in Biomechanics
Examination of some of the techniques used in biomechanical research for data collection, analysis, and presentation. Emphasis on developing an understanding of experimental techniques, their capabilities and limitations. The lecture/discussion/lab sessions provide a historical and theoretical basis for each of the techniques examined. **Prerequisites** Graduate standing or consent of instructor.

**KIN 744**
**Credits 3**
Thermoregulation During Physical Work
Emphasizes physical mechanisms of heat transfer and their physiological control: relationship among body temperatures, sweat rate, exercise loads, environmental temperature, and heat stress. **Prerequisites** KIN 739 and consent of instructor.

**KIN 745**
**Credits 3**
Human Energy Metabolism
Study of the interactions between nutrition, energy metabolism, and physical exercise. Emphasis on how the body assimilates, stores, and makes available food energy to power muscular work. **Prerequisites** KIN 739 or consent of instructor.

**KIN 747**
**Credits 1**
Graduate Seminar
Oral presentations of proposed and completed research by graduate students, graduate faculty, and guests. **Notes** May be taken for credit to a maximum of four credits.

**KIN 748**
**Credits 1 – 6**
Professional Paper
May be repeated but only three credits will be applied to the student’s program. **Notes** May be repeated but only two credits will be applied to the student's program. **Grading** S/F grading only.

**KIN 749**
**Credits 3 – 6**
Thesis
**Notes** May be repeated but only six credits will be applied to the student's program. **Grading** S/F grading only.

**KIN 750**
**Credits 3**
Research Methods
Overview of techniques used in historical, descriptive, and experimental research such as those found in exercise science, health, physical education, and recreation research publications. Procedures for formulating a research proposal; hypothesis testing; experimental designs and statistical applications.

**KIN 751**
**Credits 3**
Selected Application of Statistical Techniques I
Introduction to descriptive and inferential statistical procedures utilized in studies reported in exercise science, health, physical education, and recreation. **Prerequisites** KIN 750

**KIN 752**
**Credits 3**
Selected Application of Statistical Techniques II
Statistical analysis techniques including correlation and regression, anova, multivariate analysis, manova for repeated measures designs. Introduction to selected statistical software packages; computer-aided graphics and data presentation techniques. **Prerequisites** KIN 751 or consent of instructor.

**KIN 755**
**Credits 3**
Research on Physical Activity Behavior
Students review the scholarly literature pertaining to physical activity behavior. Papers with special implications for building a general knowledge base requisite to the conduct of research on physical activity behavior are read, discussed, and critically analyzed.

**KIN 760**  
**Motor Learning**  
Credits 3  
Advanced studies in motor behavior. Discussions of basic concepts and current perspectives. Notes Focus is on training methods that enhance the learning process. Prerequisites Consent of instructor.

**KIN 761**  
**Human Motor Control**  
Credits 3  
Advanced studies in motor control, including sensory and central contributions to movement control, coordination, balance, and attention.

**KIN 762**  
**Motor Learning Applications**  
Credits 3  
Designed to explain basic concepts of motor learning involved in organizing and scheduling practice for efficient learning/teaching of motor skills. Includes discussions of memory, feedback, stages of learning, and other motor learning principles.

**KIN 775**  
**Internship in Athletic Administration**  
Credits 3  
The internship in Athletics is a culminating experience that provides an opportunity to apply knowledge and skills learned in the academic program while working within an athletic administration or related organization. Students will work under the direction of a supervisor in an area related to their selected interest for future employment. Notes May be repeated to a maximum of six credits.

**KIN 788**  
**Independent Study**  
Credits 1-3  
Independent Study

**KIN 791**  
**Independent Study in Biomechanics**  
Credits 1 – 3  
Independent study of a selected topic in biomechanics. Notes May be repeated to a maximum of six credits. A maximum of six hours of independent study accumulated in KIN 790-795 may be counted towards a master's degree. Prerequisites Consent of instructor.

**KIN 792**  
**Independent Study in Measurement & Evaluation**  
Credits 1 – 3  
Independent study of a selected topic in measurement and evaluation. Notes May be repeated to a maximum of six credits. A maximum of six hours of independent study accumulated in KIN 790-795 may be counted towards a master's degree. Prerequisites Consent of instructor.

**KIN 793**  
**Independent Study in Motor Behavior**  
Credits 1 – 3  
Independent study of a selected topic in motor behavior. Notes May be repeated to a maximum of six credits. A maximum of six hours of independent study accumulated in KIN 790-795 may be counted towards a master's degree. Prerequisites Consent of instructor.

**KIN 795**  
**Independent Study in Sports Injury Management**  
Credits 1 – 3  
Independent study of a selected topic in sports injury management. Notes May be repeated to a maximum of six credits. A maximum of six hours of independent study accumulated in KIN 790-795 may be counted towards a master's degree. Prerequisites Consent of instructor.

**KIN 796**  
**Supervised Practice: Community Nutrition**  
Credits 2  
For Students accepted into the Department of Nutrition Sciences Dietetic Internship. Students gain intensive experiences covering all aspects of community nutrition programming. Students will observe the diversity within community nutrition in terms of mission, target audience and programs and will actively participate in nutrition program development, implementation, evaluation, and marketing. Corequisite KIN 797 and KIN 798.

**KIN 797**  
**Supervised Practice: Food Service Management**  
Credits 2
For students accepted into the Department of Nutrition Sciences Dietetic Internship. Students will gain experience in managing the diet office, tray line production and supervision, food service production, cafeteria management, and catering. Corequisite KIN 796 and KIN 798.

KIN 798 Credits 2
Supervised Practice: Clinical Nutrition and Dietetics
For students accepted into the Department of Nutrition Sciences Dietetic Internship. Students will gain the skills required to screen and assess individual patients, interpret laboratory values, develop and implement appropriate care plans, complete appropriate diet instructions, and document all assessment and plan information in correct medical chart format. Corequisite KIN 797 and KIN 798.

KIN 799 Credits 1 – 12
Dissertation
Culminating research analysis and writing toward completion of dissertation and subsequent defense.
Physical Therapy

Chair

Wallmann, Harvey
(1997), Associate Professor; B.A., M.S., Purdue University; M.S., University of Indianapolis; DSc, Loma Linda University.

Graduate Coordinator

Puentedura, E. Louie
(2007), Assistant Professor; B.S. and G.D.M.T., Lincoln Institute of Health Sciences, La Trobe University, Australia; D.P.T., Northern Arizona University.

Graduate Faculty

Hickman, Robbin
(2007), Assistant Professor; B.S., California State University, Long Beach; M.H.S., University of Indianapolis; D.Sc., Rock Mountain University of Health Professionals.

Landers, Merrill
(2001), Associate Professor; B.S., Brigham Young University; DPT, Creighton University.

Schuerman, Sue
(2006), Assistant Professor; B.S., University of Nebraska; M.B.A., University of Massachusetts, Ph.D., University of Nebraska.

Young, Danny
(2007), Assistant Professor; B.S., Southern Utah University; D.P.T., Creighton University.

The Department of Physical Therapy offers a graduate program leading to a Doctor of Physical Therapy (DPT) degree. The program is designed to prepare students to plan and administer treatment to help patients regain diminished physical function lost secondary to injury or disease, to promote soft tissue healing, and to relieve pain. By determining the degree of impairment, physical therapists are then able to help patients return to full function by using various physical agents such as electrical stimulation, heat, and cold to decrease pain and by using therapeutic exercises to increase strength, endurance, and coordination.

The purpose of the Department of Physical Therapy is to provide students pursuing a career in physical therapy the opportunity to acquire the knowledge and skills required for the safe practice of physical therapy. Students are prepared as generalists, but also have some opportunity to investigate specialized aspects of physical therapy through numerous clinical exposures. The program of study consists of approximately 111 credit hours of graduate course work and consists of intense academic and clinical work spread over six semesters and three summers. These hours are divided between classroom, clinical and research activities.

The DPT is an entry-level professional program designed to provide individuals with appropriate baccalaureate degrees the knowledge and skills to develop clinical and research expertise in the provision of physical therapy. Upon receiving this degree, students will be eligible to sit for the licensure examination in physical therapy.

The mission of the UNLV Department of Physical Therapy is to develop competent, caring and autonomous practitioners who will serve the health care needs of the State of Nevada and the profession and who are doctorally prepared to engage in critical thinking, evidence-based practice, life-long learning, and service in a variety of health care settings, including rural and under-served areas.

Program

- Physical Therapy D.P.T.

Physical Therapy D.P.T.
Admission Requirements

Admission to the program is limited to 30 available spaces per class. Students enrolling in any class in the Department of Physical Therapy must be admitted (graduate standing only, no graduate provisional standing accepted) to the program in the Summer semester of each year. Since enrollment is limited in the Physical Therapy program, satisfactory completion of prerequisite courses does not assure an applicant of admission. No student may take any class as a “Nondegree Seeking” student. Admissions criteria are reviewed by the faculty annually and are subject to change.

Prior to application to the program, the individual is advised to fully explore the nature of the profession of physical therapy. Students are expected to volunteer in or visit various physical therapy facilities in order to gain a broad view of the roles and responsibilities of a physical therapist. As part of the interview process, students will be assessed on their knowledge of the scope of the profession of physical therapy.

The application deadline is December 15 preceding the June in which admission is desired. After applications are received, they are reviewed regarding the minimum requirements, i.e., baccalaureate degree, GPAs, etc. Only the leading candidates will be invited for interviews during the Spring semester, which are based on satisfactory completion of the admission requirements.

The following requirements are considered for admission into the Doctor of Physical Therapy program:

1. Prior to entering the program, candidates must complete prerequisite courses and earn a baccalaureate degree from an accredited college or university. There is no preference given to any particular baccalaureate degree.
2. A minimum overall undergraduate grade point average of 2.75 on a 4.0 scale with a minimum average of 3.0 on a 4.0 scale for prerequisite courses.
3. A composite score of 1000 or higher on the verbal and quantitative sections of the Graduate Record Examination (GRE) is preferred. A score of 4 out of 6 is recommended on the Analytical Writing Section of the GRE.
4. Students must apply to the DPT program via the new Physical Therapy Centralized Application Service (PTCAS). Only applications from PTCAS will be considered. Please use the URL www.ptcas.org to complete your application.

The following are required with your application to PTCAS:

A. Three letters of recommendation. Two of the letters need to be from a licensed physical therapist who can evaluate the applicant’s potential as a student in the physical therapy program. The remaining letter can be from a former professor or employer.
B. An autobiographical statement of approximately 300 words describing the student’s professional goals and reasons for seeking graduate education in physical therapy.
C. Knowledge of the field through actual work or volunteer experience (a minimum of 100 hours or more divided among hospital and outpatient facilities). Additional hours in diversified settings are strongly recommended.
5. An interview may be required.

Information to be submitted to the Graduate College:

1. Application forms are available on the Graduate College website, with appropriate fees.
2. Official transcripts from all previous college and professional schools.
3. Official scores from the Graduate Record Examination (GRE).

The program is open to qualified applicants without regard to race, color, religion, sex, sexual orientation, age, national origin, marital status, or the presents of any physical, sensory, or mental disability.

Prerequisite Courses
In addition to completing the requirements of a baccalaureate degree, applicants must have completed or be able to complete the necessary specific hours of prerequisite course work with a grade of at least a C prior to admission to the program. Grades below a C in prerequisite courses will not be accepted. No more than two prerequisite science courses should be in progress or incomplete and all prerequisite science courses must be completed by the end of the spring semester (quarter) prior to commencing the program. Those students in the process of fulfilling the requirements of a prerequisite course must realize that their acceptance into the program is contingent upon satisfactory completion of that course during the application process.

Courses taken on a pass-fail basis may not fulfill prerequisite requirements. Individuals submitting prerequisite course work completed prior to 1995 should contact the Physical Therapy Department Office to determine if the course work is appropriate to fulfill prerequisite course requirements, which are as follows:

1. One year of lecture-based biology courses
2. One year of laboratory and lecture-based anatomy and physiology courses
3. One year of laboratory and lecture-based inorganic chemistry
4. One year of laboratory and lecture-based physics
5. One year psychology (introduction to psychology and one semester of either child, adolescent, developmental or abnormal psychology)
6. One semester statistics

Advisement

All entering students will be assigned a specific faculty member for advisement.

Policies and Procedures

Policies and procedures for didactic and clinical work regarding course grades, probation, separation, and reapplication are detailed in the Department of Physical Therapy Student Manual and Clinical Education Manual.

Progression

To progress in the Physical Therapy Program students must adhere to the following guidelines:

1. Maintain a cumulative grade point average of 3.00 or above each semester enrolled.
2. Receive a grade of B- or above in all required physical therapy courses. Students who do not maintain a 3.00 average or who receive any grade less than a B- in any course at the end of the semester will be notified in writing and placed on probation at that time. A second grade of C+ or lower received in any course in the ensuing semester or failure to restore the cumulative average to 3.00 or above during the ensuing semester will bring about separation from the program. The student’s status in the program will be determined the Chair/Director on the recommendation of the Academic Review Committee (ARC) regarding the student’s separation or action plan for remediation.
3. The student will not progress in the program if any of the following occur:
   a. An earned F in any didactic course. This results in immediate separation without the option for reapplication.
   b. Failure of a third attempt of any clinical competency check-off with the exception of the final practical exam.
   c. A failure of a final practical exam (different than the competency check-off).
   d. A grade of C+ or below in more than one course in any semester.
   e. Inability to rectify probationary status within the time frame allotted by the ARC.
f. A student on probation whose actions warrant probation in another category (academic, professional behavior, clinical) may also be separated.

4. A student may register for a Supervised Clinical Education course only two times if the option to reapply is approved by the ARC and a recommendation is made to the department chair/director. This option is only available to students who have failed a clinical rotation and have been separated from the program. This option is not available to students failing didactic course work. A student who is registered for the same course twice and has withdrawn or received a Fail is ineligible for readmission unless otherwise approved by the ARC, Department Chair, and Graduate Dean.

5. The students must follow the proposed curriculum in the specified time frames unless otherwise approved by the ARC, Department Chair, and Graduate Dean.

6. To develop scientific practitioners, who are able to demonstrate the ability to critically analyze literature, utilize evidence-based integrated treatment approaches, and value clinical based research.

7. To prepare graduates to educate and encourage patients to achieve functional independence so they may have an improved quality of life and become more productive members of society.

8. To prepare graduates who will be able to organize and promote health awareness, wellness, and prevention education, and reintegrate populations with special needs into the community throughout-reach programs.

9. To prepare graduates to assume a leadership role in addressing critical issues that affect clinical practice, education, research, and public policy.

10. To prepare graduates to be committed to a lifetime of self-directed learning, professional development, integrity, community involvement, and to exemplify professional and personal ethics and values.

11. To prepare graduates to demonstrate understanding of medico-legal issues in physical therapy practice through active involvement in professional organization.

12. To educate students on the benefits of working interdependently with other health care professionals using a team approach to patient care.

Objectives

1. To prepare students to be the purveyors of physical therapy practice through clinical excellence, critical thinking, scientific inquiry, and social responsibility.

2. To prepare students to differentially diagnose enabling them to establish an appropriate plan of care and provide referral as necessary.

3. To prepare graduates who will be able to work autonomously in a wide variety of settings and roles as practitioners, clinical educators and researchers, supervisors, administrators and consultants.

4. To prepare students to adapt to changes in health care and society and be prepared to work in challenging environments with elderly, rural, and underserved populations.

5. To educate students in the design and implementation of culturally competent health care.

6. To develop scientific practitioners, who are able to demonstrate the ability to critically analyze literature, utilize evidence-based integrated treatment approaches, and value clinical based research.

7. To prepare graduates to educate and encourage patients to achieve functional independence so they may have an improved quality of life and become more productive members of society.

8. To prepare graduates who will be able to organize and promote health awareness, wellness, and prevention education, and reintegrate populations with special needs into the community throughout-reach programs.

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11. To prepare graduates to demonstrate understanding of medico-legal issues in physical therapy practice through active involvement in professional organization.

12. To educate students on the benefits of working interdependently with other health care professionals using a team approach to patient care.

Graduation Requirements

Students in the Physical Therapy program must adhere to the following requirements for graduation:

1. Satisfactory completion of the Physical Therapy program curriculum including the required period of clinical education with a grade point average of 3.00 or higher on a scale of 4.00.

2. Credit by Challenge Examination. Graduate courses in the Department of Physical Therapy may not be challenged for credit.
3. The program must be completed within six years from the date of matriculation. The chair/director will evaluate potential exceptions.

4. In addition to the course requirements, the student must satisfactorily prepare a written document and oral presentation of a final research project, professional paper, or case report. The presentation will satisfy the requirements for a final capstone experience and will be open to the public.

5. Students must be in good standing with the Department of Physical Therapy and cannot be on a probation status at the time of graduation. Policies related to student probation, separation, and academic progress as stated in the current physical Therapy Student Manual are in compliance with the Graduate College.

Degree Requirements

Entry-Level Doctor of Physical Therapy Degree
Curriculum - Total Credits: 111

Beginning with the class of 2011, the curriculum will be modified to reflect faculty and student concerns based upon program assessment. These changes will take place throughout the next year.

Summer Semester 1st Year (Both Sessions) - Total Credits: 9
- DPT 710 - Selected Topics in Physical Therapy - 1 credit
- DPT 711 - Medical Terminology - 1 credit
- DPT 726 - Evidence-Based Practice in Physical Therapy I - 1 credit
- DPT 744 - Gross Anatomy I - 2 credits
- DPT 744L - Gross Human Anatomy Lab I - 1 credit*
- DPT 745 - Gross Anatomy II - 2 credits
- DPT 745L - Gross Human Anatomy Lab II - 1 credit*

Fall Semester 1st Year - Total Credits: 19
- DPT 730 - Foundations of Observation and Assessment - 2 credits
- DPT 730L - Foundations of Observation and Assessment - 2 credits*
- DPT 741 - Orthopaedic Principles - 3 credits*
- DPT 742 - Clinical and Pathological Physiology - 5 credits
- DPT 746 - Neuroanatomy - 3 credits
- DPT 746L - Neuroanatomy Lab - 1 credit
- DPT 749 - Applied Exercise Physiology - 2 credits
- DPT 749L - Applied Exercise Physiology Lab - 1 credit

Spring Semester 1st Year - Total Credits: 19
- DPT 732 - Therapeutic Exercise - 2 credits
- DPT 732L - Therapeutic Exercise - 1 credit
- DPT 735 - Functional Training and Acute Care - 2 credits
- DPT 735L - Functional Training and Acute Care Lab - 1 credit
- DPT 748 - Pharmacology - 2 credits
- DPT 754 - Orthopaedic Assessment in Physical Therapy - 4 credits
- DPT 756 - Neurophysiology - 4 credits
- DPT 790 - Clinical Research in Physical Therapy - 3 credits

Summer Semester 2nd Year (Both Sessions) - Total Credits: 7
- DPT 720 - Professional Development - 2 credits
- DPT 752 - Physical Agents and Electrophysiology - 2 credits
- DPT 752L - Physical Agents and Electrophysiology Lab - 1 credits*
- DPT 761 - Supervised Clinical Education I - 3 credit*

Fall Semester 2nd Year - Total Credits: 16
- DPT 720 - Professional Development - 2 credits
- DPT 757 - Wound Care - 2 credits*
- DPT 770 - Cardiopulmonary Rehabilitation - 1 credit
- DPT 770L - Cardiopulmonary Rehabilitation Lab - 1 credit
- DPT 785 - Orthopaedic Rehabilitation - 2 credits
DPT 785L - Orthopaedic Rehabilitation Lab - 1 credit
  DPT 786 - Neurological Rehabilitation - 3 credits
  DPT 786L - Neurologic Rehabilitation Laboratory Experience - 1 credit
  DPT 791 - Applied Research Statistics - 3 credits*

Spring Semester 2nd Year - Total Credits: 16
  DPT 727 - Evidence-Based Practice in Physical Therapy II - 1 credit
  DPT 747 - Geriatric Examination and Intervention - 1 credit
  DPT 750 - Prosthetics and Orthotics - 2 credits
  DPT 750L - Prosthetics and Orthotics - 1 credit
  DPT 755 - Geriatric and Pediatric Rehabilitation - 2 credits
  DPT 755L - Geriatric and Pediatric Rehabilitation - 1 credit
  DPT 758 - Diagnostic Testing and Imaging - 2 credits
  DPT 787 - Integrated Rehabilitation - 2 credits
  DPT 787L - Integrated Rehabilitation Lab - 1 credit
  DPT 788 - Spine Examination and Treatment - 2 credits
  DPT 788L - Spine Examination and Intervention Lab - 1 credit

Summer Semester 3rd Year (Both Sessions) - Total Credits: 6
  DPT 751 - Women's Health in Physical Therapy - 2 credits
  DPT 772 - Physical Therapy Administration - 2 credits
  DPT 774 - Psychosocial Aspects of Physical Therapy - 2 credits

Fall Semester 3rd Year - Total Credits: 10
  DPT 762 - Supervised Clinical Education II - 5 credits*
  DPT 763 - Supervised Clinical Education III - 5 credits*

Spring Semester 3rd Year - Total Credits: 9
  DPT 764 - Supervised Clinical Education IV - 6 credits*
  DPT 798 - Directed Research - 3 credits

* Course fee

DPT 750L Credits 1
Prosthetics and Orthotics Lab
Application of medical, surgical and prosthetic and rehabilitation management of amputations. Design, fabrication and fitting of prosthetic devices as well as general orthotic principles examined. Basic clinical problem solving skills integrated in the context of prosthetic and orthotic management of patients. Prerequisites
Graduate standing in Physical Therapy.
Corequisite DPT 750

PTS 744 Credits 3
Gross Human Anatomy
Gross anatomy studied regionally stressing relationships of major structures, organs, vessels and nerves. Prosected human cadaver observation by students included in laboratory session (PTS 744L). All major areas of the body covered. Reference to the relationship of anatomical structures to pathology, traumatic injury and medicine stressed. Prerequisites Undergraduate Anatomy, Physiology or Biology lab course.
Corequisite PTS 744L

PTS 744L Credits 1
Gross Human Anatomy Lab
Gross human anatomy cadaver lab with supervised examination and exploration of prosected human cadavers. All major areas
of the body are covered. References to the relationship of anatomical structures to pathology, traumatic injury and medicine stressed. **Prerequisites** Undergraduate Anatomy, Physiology or Biology lab course or equivalent.
Corequisite PTS 744

**PTS 747**  
**Credits 3**  
**Human Neuroanatomy**  
High level immersion, including cadaveric prosection, into the anatomy of the central nervous system, emphasizing structure and functional relationships. Coursework will also relate these structural relationships to brain dysfunction and pathology. **Prerequisites** Graduate standing.

**DPT 710**  
**Credits 1**  
**Selected Topics in Physical Therapy**  
Forum to disseminate information to students on current and professional issues in physical therapy. **Prerequisites** Graduate standing in physical therapy.

**DPT 711**  
**Credits 1**  
**Medical Terminology**  
Introduction to medical terminology for the healthcare professional. Students expand their medical vocabulary via immersion in medical content and subjects from a broad spectrum of body systems. **Prerequisites** Graduate standing in physical therapy.

**DPT 720**  
**Credits 2**  
**Professional Development**  
Theories and experiences designed to develop skills to accurately, sensitively and assertively communicate with patients, families, and colleagues. Principles of written and oral communication. Professional issues of changes in health care, state and local laws, standards of practice, code of ethics, quality assessment and quality assurance. **Prerequisites** Graduate standing in physical therapy.  

**DPT 721**  
**Credits 1**  
**Advanced Topics in Physical Therapy**  
Through inclass and webassisted instruction, independent study, and mentored project development, prepares students for a variety of clinical competencies including health promotion/wellness, evaluation of alternative and complementary approaches, rural health, and other advanced aspects of clinical practice, ethics, and professional conduct related to physical therapy. **Prerequisites** DPT 710

**DPT 722**  
**Credits 1**  
**Issues in Rural Health**  
Unique needs of frontier/rural and underserved populations addressed, emphasizing the eclectic nature of practice in these areas, the importance of networking with other disciplines, and special considerations of these populations including functional rehabilitation, time management, travel, emergencies, and involvement of families in treatment. **Prerequisites** Graduate standing in physical therapy.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPT 726</td>
<td>1</td>
<td>Evidenced Based Practice in Physical Therapy I</td>
<td>Designed to provide the student with knowledge and hands-on experience in skills required to engage evidence-based clinical practice of physical therapy. Students will learn how to write answerable questions, search the literature, and critically analyze evidence for application in clinical practice. Prerequisites Graduate standing in Physical Therapy.</td>
</tr>
<tr>
<td>DPT 727</td>
<td>1</td>
<td>EvidenceBased Practice in Physical Therapy II</td>
<td>This 1 credit course builds on DPT 726 and 790, providing students with knowledge skills to implement evidence-based practice in physical therapy. Students will critique special cases of evidence and psychometric properties of diagnostic tools and outcome measures, and create a minimal data set in order to integrate evidence into practice. Prerequisites DPT 726 and DPT 790</td>
</tr>
<tr>
<td>DPT 730</td>
<td>2</td>
<td>Foundations of Observation and Assessment</td>
<td>Basic patient assessment skills with introduction to posture and gait evaluation through observation. Patient history and review of the medical record. Documentation in S.O.A.P. Note and functional outcome formats. Assessment skills emphasized include: anthropometric measures, reflex and sensation testing, goniometry, manual muscle testing, vital signs, and surface palpation. Prerequisites DPT 730, DPT 730L; DPT 741 DPT 741L; DPT 744 DPT 744L; DPT 745 DPT 745L. Corequisite DPT 732L.</td>
</tr>
<tr>
<td>DPT 732</td>
<td>2</td>
<td>Therapeutic Exercise</td>
<td>Holistic approach to evaluation and management of patients with various orthopaedic pathologies and other related movement dysfunction. Emphasis placed on theoretical basis of specific exercise physiology, therapeutic exercise and functional training skills interrelated with clinical decisionmaking methodology. Rationale for and implementation of treatments with safety awareness and proper body mechanics. Prerequisites DPT 730, DPT 730L; DPT 741 DPT 741L; DPT 744 DPT 744L; DPT 745 DPT 745L. Corequisite DPT 732L.</td>
</tr>
<tr>
<td>DPT 732L</td>
<td>1</td>
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</tbody>
</table>
Therapeutic Exercise Lab
Laboratory sessions to practice the evaluation and management of patients (and patient scenarios) with various orthopaedic pathologies and other related movement dysfunctions. Emphasis on exercise prescription and demonstration, as well as progression. **Prerequisites** DPT 730, DPT 730L; DPT 741 DPT 741L; DPT 744 DPT 744L; DPT 745 DPT 745L. **Corequisite** DPT 732.

DPT 735 Credits 3
**Functional Training and Acute Care**
Performance and application of positioning skills, transfers techniques, and assistive devices. Advancement to clinical decisionmaking skills and incorporation of learned materials into therapy interventions. Clinical reasoning skills in assessment, treatment design and intervention, goal development and discharge planning for patients in the acute hospital environment. **Prerequisites** Graduate standing in Physical Therapy. DPT 744, 745, 730. **Corequisite** DPT 735L

DPT 735L Credits 1
**Functional Training and Acute Care Lab**
Hands on performance and application of positioning skills, transfer techniques, and assistive devices. Advancement to clinical decisionmaking skills and incorporation of learned materials into therapy interventions. Clinical reasoning skills in assessment, treatment design and intervention, goal development and discharge planning for patients in the acute hospital environment.

Prerequisites Graduate standing in Physical Therapy. DPT 744, 745, 730. **Corequisite** DPT 735

DPT 741 Credits 3
**Orthopaedic Principles**
Principles of orthopaedic physical therapy including biomechanics, applied anatomy, and osteokinematic and arthrokinematic concepts examined. Musculoskeletal system investigated from histological, structural, and functional perspectives. **Prerequisites** Graduate standing in physical therapy.

DPT 742 Credits 5
**Clinical and Pathological Physiology**
Fundamentals of physiology and pathology related to diseases causing abnormal movement patterns or capabilities. Processes and diseases most frequently encountered in physical therapy practice emphasized. **Prerequisites** Graduate standing in physical therapy.

DPT 744 Credits 2
**Gross Anatomy I**
Study of gross human anatomy as it applies to physical therapy. Materials to be covered include: muscle, tendon, ligament and nerve innervation of the trunk and upper extremity, structural identification and function of the spine, heart, lungs, abdominopelvic organs, circulatory and sensory systems. Emphasis on relevance of gross anatomy to physical therapy practice. Involves both lecture and laboratory
dissection that will cover the upper half of the body. **Prerequisites** Graduate standing in Physical Therapy. **Corequisite** DPT 744L

**DPT 744L**  
**Credits 1**  
**Gross Human Anatomy Lab I**  
Gross human anatomy cadaver lab with supervised dissection and exploration of muscle, tendon, ligament and nerve innervation of the trunk and upper extremity, structural identification and function of the spine, heart, lungs, abdominopelvic organs, circulatory and sensory systems.

**DPT 745**  
**Credits 2**  
**Gross Anatomy II**  
Study of gross human anatomy as it applies to physical therapy. Materials to be covered include: muscle, tendon, ligament and nerve innervation of the head, neck, and lower extremity, structural identification and function of the corresponding circulatory and sensory systems. **Prerequisites** DPT 744 and DPT 744L  
**Corequisite** DPT 745L

**DPT 745L**  
**Credits 1**  
**Gross Human Anatomy Lab II**  
Gross human anatomy cadaver lab with supervised dissection and exploration of muscle, tendon, ligament and nerve innervation of the head, neck, and lower extremity, structural identification and function of the corresponding circulatory and sensory systems. **Prerequisites** DPT 744 and DPT 744L  
**Corequisite** DPT 745

**DPT 746**  
**Credits 3**  
**Neuroanatomy**  
High level immersion into the anatomy of the nervous system, emphasizing structure and functional relationships. Coursework will also relate the structural relationships of the central and peripheral nervous systems to brain dysfunction and pathology. **Prerequisites** Graduate standing in physical therapy. **Corequisite** DPT 746L

**DPT 747**  
**Credits 1**  
**Geriatric Examination and Intervention**  
Examination, evaluation, plan of intervention, outcomes, patient education, and health promotion as applied to the geriatric client. Issues include factors affecting normal aging, pathological aging, common pathologies associated with aging, quality of life, successful aging, care settings, reimbursement, and public policy. **Prerequisites** Graduate standing in physical therapy.

**DPT 748**  
**Credits 2**  
**Pharmacology**  
Actions and effects of pharmaceutical agents commonly encountered in physical therapy clinical practice. **Prerequisites** Graduate standing in Physical Therapy.

**DPT 749**  
**Credits 2**  
**Applied Exercise Physiology**  
Review of systems responsible for the generation of energy. Overview of the physiologic responses of the human body to
acute bouts of exercise and how training leads to chronic adaptation of selected systems. Course content focuses on principles of exercise, role of nutrients in body metabolism, human development and performances. **Prerequisites** Graduate standing in physical therapy.

**DPT 750**  
**Credits 2**  
**Prosthetics and Orthotics**  
Evaluation of medical, surgical and prosthetic and rehabilitation management of amputations. Discussion of design, fabrication and fitting of prosthetic devices as well as general orthotic principles examined. Basic clinical problem solving skills integrated in the context of prosthetic and orthotic management of patients. **Prerequisites** Graduate standing in Physical Therapy. **Corequisite** DPT 750L

**DPT 751**  
**Credits 2**  
**Women's Health in Physical Therapy**  
Overview of the anatomical, physiological, nutritional, psychological, and sociological influences throughout the woman's life span including: adolescence, the reproductive years, the middle years, the older age. Discussion of physical therapy management of musculoskeletal, integumentary, cardiopulmonary, and visceral pathologies common to women. **Prerequisites** Graduate standing in physical therapy.

**DPT 752**  
**Credits 3**  
**Physical Agents and Electrophysiology**  
Biological processes of injury and repair, clinical application of soft tissue techniques, thermal agents, intermittent compression, continuous motion, electrical stimulation, and mechanical traction. Principles of electrophysics and neurophysiology as they pertain to the use of therapeutic electrical stimulation. Advancement to clinical decisionmaking skills in physical application. **Prerequisites** Graduate standing in Physical Therapy. DPT 742, 730, 732. **Corequisite** DPT 752L

**DPT 752L**  
**Credits 1**  
**Physical Agents and Electrophysiology Lab**  
Hands on performance and clinical application of soft tissue techniques, thermal agents, intermittent compression, continuous motion, electrical stimulation, mechanical traction, therapeutic electrical stimulation. **Prerequisites** Graduate standing in Physical Therapy. DPT 742, 730, 732. **Corequisite** DPT 752

**DPT 754**  
**Credits 3**
Orthopaedic Assessment in Physical Therapy
Evaluation and assessment of upper and lower extremity orthopaedic problems. Discussion and application of functional anatomy, biomechanics, and evaluative manual therapy skills used to differentially diagnose orthopaedic pathologies and disorders. Prerequisites DPT 730, DPT 730L, DPT 741, DPT 744, DPT 744L, DPT 745, DPT 745L Corequisite DPT 754L

DPT 754L Credits 1
Orthopaedic Assessment in Physical Therapy Lab
Evaluation and assessment of upper and lower extremity orthopaedic problems. Practical application of functional anatomy, biomechanics, and evaluative manual therapy skills used to differentially diagnose orthopaedic pathologies and disorders. Prerequisites DPT 730, DPT 730L, DPT 741, DPT 744, DPT 744L, DPT 745, DPT 745L Corequisite DPT 754

DPT 755 Credits 3
Geriatric and Pediatric Rehabilitation
Examination of factors affecting normal and pathologic systems from birth into aging. Issues include normal developmental sequences and common pathologies across the life span. Evaluation, wellness and leisure activities, and how basic rehabilitation procedures can be modified for the elderly. Prerequisites Graduate standing in physical therapy.

DPT 756 Credits 4
Neurophysiology
High level immersion into the function of the human central and peripheral nervous systems based on current research and theory. Topics include normal human motor and sensory neurophysiology, cognitive and learning neurophysiology, neuropathophysiology, neuroplasticity, neurodiagnostics and neurologic treatment options. Prerequisites DPT 746

DPT 757 Credits 2
Wound Care
Clinical practice of wound care including physiology of tissue healing, wound assessment tools, dressings and treatment approaches. Processes and diseases most frequently encountered in physical therapy practice specializing in wound care. Prerequisites DPT 742, DPT 752

DPT 758 Credits 2
Diagnostic Testing and Imaging
Presentation of diagnostic tests used by disciplines and specialties within and outside of the profession of physical therapy. Discussion of blood studies, nuclear medicine studies, and radiologic/Xray studies. Interpretation of test results as it applies to physical therapy evaluation, intervention planning and treatment. Prerequisites Graduate standing in physical therapy.

DPT 759 Credits 2
Pediatric Rehabilitation
Provides foundational knowledge of development (typical and atypical) and an overview of pediatric physical therapy practice for children with atypical development. Presents examination, evaluation, and development of physical therapy plans of care for children with various disabilities within the frameworks of family-centered care and disablement/enablement models. 

**Prerequisites** Graduate standing in Physical Therapy. **Corequisite** DPT 759L

### DPT 759L Credits 1
**Pediatric Rehabilitation Laboratory Experience**
Focuses on application of developmental concepts and an overview of pediatric physical therapy practice for children with atypical development. Provides students with opportunities to observe/engage in examination, evaluation, and development of physical therapy plans of care for children with various disabilities within the frameworks of family-centered care and disablement/enablement models. 

**Prerequisites** Graduate standing in Physical Therapy. **Corequisite** DPT 759L

### DPT 762 Credits 5
**Supervised Clinical Education II**
The second clinical affiliation is a supervised, full-time extended clinical learning experience 11 weeks in duration. The primary purpose is to provide students with the opportunity to actively engage in experiential learning in order to advance clinical competence in the delivery of services to persons with movement dysfunction. **Prerequisites** DPT 761

### DPT 763 Credits 5
**Supervised Clinical Education III**
The third clinical affiliation is ten and onehalf weeks and is a supervised full-time extended clinical learning experience. The primary purpose is to provide students with the opportunity to actively engage in experimental learning in order to advance clinical competence in the delivery of services to persons with movement dysfunction. **Prerequisites** DPT 762

### DPT 764 Credits 6
**Supervised Clinical Education IV**
The fourth clinical affiliation is twelve weeks and is a supervised full-time extended clinical learning experience. The primary purpose is to provide students with the opportunity to actively engage in
experiential learning in order to advance clinical competence in the delivery of services to persons with movement dysfunction. **Prerequisites** DPT 763

**DPT 765**  
**Clinical Education V**  
Credits 4  
This nine-week clinical affiliation is an extended learning experience for students completing the transitional physical therapy doctorate. The primary purpose is to provide students the opportunity to advance clinical competence in the delivery of physical therapy services to persons with movement dysfunction. **Prerequisites** Successful completion or concurrent work in all course work to date in the transitional doctorate physical therapy program.

**DPT 770**  
**Cardiopulmonary Rehabilitation**  
Credits 1  
Review of systems responsible for the generation of energy. Overview of the physiologic responses of the human body to acute bouts of exercise and how training leads to chronic adaptation of selected systems. Course content focuses on principles of exercise, role of nutrients in body metabolism, human development and performance. **Prerequisites** Graduate standing in physical therapy.  
**Corequisite/Prerequisite** DPT 770L

**DPT 770L**  
**Cardiopulmonary Rehabilitation Lab**  
Credits 1  
Lab of basic patient skills including assessment of vital signs, breathing patterns, heart sounds, ECG interpretation, pulmonary function testing, blood gases, chest wall mobility, cough and sputum, ventilation, performance of bronchial drainage, prescribe exercises for patient with compromised cardiopulmonary function.  
**Corequisite** DPT 770

**DPT 772**  
**Physical Therapy Administration**  
Credits 2  
General principles of organizations and administration that impact the ethical and legal aspects of physical therapy practice. Topics include budget development, cost accounting, supervision, communication skills, evaluative techniques, and methods of management and quality assurance. **Prerequisites** Graduate standing in physical therapy.

**DPT 774**  
**Psychosocial Aspects of Physical Therapy**  
Credits 2  
Social and psychological issues which arise during illness examined and discussed in an open class discussion format. Emphasis on self-awareness as well as awareness of others with respect to cultural differences, religious beliefs, addictions, and coping strategies during stress. **Prerequisites** Graduate standing in physical therapy.

**DPT 785**  
**Orthopaedic Rehabilitation**  
Credits 2  
Manual therapy and therapeutic exercise techniques for the extremities with emphasis
on integrating these techniques into treatment regimes for specific orthopaedic pathologies/disorders. Includes pathogenesis, clinical presentation, medical/surgical management and rehabilitation. Review, integrate, and enhance knowledge from previous course work as it pertains to appropriate entrylevel application. **Prerequisites** DPT 732, DPT 741, DPT 754

**Corequisite** DPT 785L

**DPT 785L**  
**Credits 1**  
**Orthopaedic Rehabilitation Lab**  
Orthopaedic Rehabilitation lab with supervised integration of manual therapy and therapeutic exercise techniques for the extremities. Focus will be on developing and providing treatment regimes for specific orthopaedic pathologies/disorders. Students will refine skills from previous course work as it pertains to appropriate entrylevel application. **Prerequisites** DPT 732, DPT 741, DPT 754. **Corequisite** DPT 785

**DPT 786**  
**Credits 3**  
**Neurological Rehabilitation**  
Course fosters clinical reasoning and critical analysis skills across elements of patient client management for individuals with neurologically-based movement disorders. Students are exposed to theory and movement science as related to clinical reasoning. Students are expected to incorporate professional behavior, scientific and clinical knowledge and critical analysis to clinical applications. **Prerequisites** DPT 730, DPT 732, DPT 744, DPT 745, DPT 746, DPT 756. **Corequisite** DPT 786L

**DPT 786L**  
**Credits 1**  
**Neurologic Rehabilitation Laboratory**  
Experience  
Course emphasizes hands-on skill development, clinical reasoning, and critical analysis skills for all elements of patient/client management for individuals with neurologically-based movement disorders across the lifespan. Students are expected to incorporate professional behavior, scientific and clinical knowledge, critical analysis and competent skill performance in laboratory and practical skill application. **Corequisite** DPT 786

**DPT 787**  
**Credits 2**  
**Integrated Rehabilitation**  
Assessment and treatment of advanced orthopedics, advanced neurological, and spinal cord injured patients utilizing comprehensive techniques for spinal cord injury (SCI), orthopedics, and neurological treatment. Through dynamic patient case problems, students evaluate, plan, and implement course of treatment. **Prerequisites** Graduate standing in Physical Therapy and DPT 785 and DPT 786. **Corequisite** DPT 787L

**DPT 787L**  
**Credits 1**  
**Integrated Rehabilitation Lab**  
Hands-on assessment and treatment of advanced orthopedics, advanced neurological, and spinal cord injured patients utilizing comprehensive techniques for spinal cord injury (SCI), orthopedics, and neurological treatment. Through
dynamic patient case problems, students will be able to evaluate, plan, and implement a course of treatment.

**Prerequisites** Graduate standing in Physical Therapy and DPT 785 and DPT 786.

**Corequisite** DPT 787

**DPT 788**  
**Credits 2**  
**Spine Examination and Treatment**  
Spine examination including biomechanics, observation, range of motion, muscle strength, joint play and special tests. Inclusion of examination schema, clinical reasoning skills and differential diagnosis of commonly seen spine pathology. Emphasis on hands-on examination, assessment, and treatment including manual therapy, spinal mobilization and spinal manipulation skills.

**Prerequisites** Graduate standing in physical therapy.

**Corequisite** DPT 788L

**DPT 788L**  
**Credits 1**  
**Spine Examination and Intervention Lab**  
Lab sessions focusing on hands-on examination, assessment, and treatment of spine dysfunction, including manual therapy, spinal mobilization and spinal manipulation skills. **Prerequisites** Graduate standing in Physical Therapy or consent of instructor.

**Corequisite** DPT 788

**DPT 790**  
**Credits 3**  
**Clinical Research in Physical Therapy**  
Introduction to principles and concepts of clinical research in physical therapy. Covers development of the research question, measurement issues, statistical analysis, literature review, and writing of results.

**Prerequisites** Graduate standing in physical therapy.

**DPT 791**  
**Credits 3**  
**Applied Research Statistics**  
Review of foundations, concepts of measurement, and design in clinical research. Emphasis on hands-on data analysis of clinically relevant physical therapy research designs including descriptive statistics, statistical inference, analysis of differences, and analysis of relationships.

**Prerequisites** Graduate standing in physical therapy.

**DPT 795**  
**Credits 1 – 6**  
**Independent Study**  
Students pursue a topic related to physical therapy beyond that covered in the graduate curriculum. Satisfactory completion accomplished through individualized, self-directed study. Topics based on student preference and faculty approval. Faculty and student jointly determine goals, objectives, and evaluation methods. **Notes** May be repeated to a maximum of six credits.

**Prerequisites**  
Graduate standing in physical therapy.

**DPT 798**  
**Credits 1 – 6**  
**Directed Research**  
Critical inquiry by participating in new or ongoing research with faculty who serve as project advisors. Students summarize research by a written report and present each
project orally to the faculty and area clinicians. Notes May be repeated to a maximum of six credits. Prerequisites DPT 790
School of Community Health Sciences

The School of Public Health is committed to preparing students to meet the critical need for public health professionals in Nevada, the nation, and the world. We provide an excellent program with a variety of areas for concentration and the opportunity for applied research. The School of Public Health has a special interest in community-based participatory research.

The School of Public Health consists of the following departments:

- Environmental and Occupational Health
- Health Care Administration
- Health Promotion
- Epidemiology and Biostatistics

Mary Guinan, Founding Dean
(2004) Professor of Epidemiology and Community Health; M.D., Johns Hopkins University; Ph.D., University of Texas.

Shawn Gerstenberger, Executive Associate Dean
(1997) Professor of Environmental and Occupational Health; B.S., University of Wisconsin-Platteville University; M.S., Ph.D., University of Illinois.

Graduate Coordinators

Chino, Michelle (MPH, M.Ed, & Ph.D. Programs)
(2000) Associate Professor of Environmental and Occupational Health, B.S., M.S., Ph.D. University of New Mexico.

Shen, Jie
(2006) Associate Professor and Chair of Health Care Administration and Policy; Ph.D. Virginia Commonwealth University.

SCHS Graduate Faculty

Abella, Scott
(2011) Associate Research Professor of Environmental and Occupational Health; B.S. Grand Valley State University; M.S. Clemson University; Ph.D. Northern Arizona University.

Bungum, Timothy
(2001) Associate Professor of Biostatistics and Epidemiology; B.A. Luther College; M.S., D.P.H University of South Carolina.

Buttner, Mark P.
(1989) Associate Professor of Environmental and Occupational Health; B.S. University of Wisconsin; M.S. University of Nevada Las Vegas; Ph.D University of Nevada Reno.

Chino, Michelle
(2000) Associate Professor of Environmental and Occupational Health; B.S., M.S., Ph.D. University of New Mexico.

Cochran, Christopher
(1997) Associate Professor of Health Care Administration and Policy; B.A. University of Texas, El Paso; M.PA.; Ph.D. University of South Carolina.

Cruz, Patricia
(1995) Associate Professor of Environmental and Occupational Health; B.S. University of Puerto Rico; M.S. University of Central Florida; Ph.D. University of Nevada Reno.

Dodge Francis, Carolee
(2007) Assistant Professor of Environmental and Occupational Health; B.S., M.A., Ed.D., University of St. Thomas.

Gerstenberger, Shawn
(1997) Professor of Environmental and Occupational Health; B.S., University of Wisconsin- Platteville University; M.S., Ph.D., University of Illinois.

Ginn, Gregory
The UNLV School of Community Health Sciences offers the Master of Public Health (MPH) degree to prepare students to become effective public health practitioners, researchers, and teachers who will competently identify public health problems and needs, develop effective strategies to address those needs, and promote appropriate services to be available for the protection of human health.

Concentration Areas within the MPH Degree
- Epidemiology and Biostatistics
- Environmental and Occupational Health
- Social and Behavioral Health
- Health Care Administration and Policy

Master of Education in Health Promotion M.Ed.

The UNLV School of Community Health Sciences offers the Master of Education in Health Promotion (M.Ed.) to prepare students to: assess and communicate individual, family, and community health needs; plan, implement, evaluate, and administer programs; act as a resource by coordinating provisions for services and applying appropriate research principles and methods; and advance the goals of job-related professional organizations. The M.Ed. in Health Promotion offers a single, interdisciplinary concentration which allows students to combine elements of administration, counseling, education, environmental health, gerontology, nutrition and fitness.

Master of Health Care Administration M.H.A.

The UNLV School of Community Health Sciences offers the Master of Health Care Administration (MHA) to provide students with a broad view of the healthcare delivery system and an understanding of health and disease. Students will develop analytical skills through the curriculum and internships to prepare them for leadership positions in healthcare organizations, financing, and delivery of healthcare services.

Doctorate in Public Health Ph. D.

The UNLV School of Community Health Sciences offers the Doctorate in Public Health to prepare students to become effective public health practitioners, researchers, and teachers who will competently identify public health problems and needs, develop effective strategies to address those needs, and promote appropriate services to be available for the protection of human health.
practitioners, researchers, and educators who will competently identify public health problems and needs, develop effective strategies to address those needs and promote appropriate services to be available for the protection of human health.

Subplans offered within the PHD Degree
Environmental and Occupational Health
Social and Behavioral Health
Health Care Administration and Policy
Epidemiology and Biostatistics (under development)

Return to: Division of Health Sciences

Health Promotion M.Ed.

Return to: School of Community Health Sciences

Master of Education in Health Promotion

The goal of the 36-semester credit hour Health Promotion graduate program is to provide students with the theory, knowledge, and skills needed to integrate the principles of health promotion into a variety of community, research, clinical, business or school settings and/or to pursue advanced study. Specifically, the Health Promotion degree program will prepare students to: 1) assess and communicate individual, family, and community needs, 2) plan, implement, evaluate, and administer programs, 3) act as a resource person by coordinating provisions for services and applying appropriate research principles and methods, and 4) advance the goals of job-related professional organizations. To this end, eight concentrations in the Health Promotion degree are offered.

The Administration concentration is designed for those interested in assuming leadership roles in their organization such as health program planners, health care project specialists, or health officers. The Communication concentration is designed for individuals interested in the dissemination of health promoting information and skills through varied strategies leading to health media specialist or health communication expert occupations.

The Counseling concentration is designed for anyone wishing to assist others one on one or in small groups regarding effective and positive strategies dealing with critical health issues. Such professionals include, but are not limited to, employee assistance program educators, patient educators, or mental health counselors.

The Education concentration is designed to improve the delivery skills of any educator at any teaching level, at varied sites such as school health teachers, public health educators, and employee wellness associates.

The Environmental Health concentration is designed for those individuals seeking occupations such as health and safety specialists or environmental health consultants due to an interest in the relationship that exists between the physical environment and the health of individuals and groups in that environment.

The Gerontology concentration is designed for individuals who are interested in health promotion strategies geared specifically for older adults delivered through professional roles such as gerontology outreach workers or program planners for seniors.

The Nutrition and Fitness concentration is designed for those interested in the fields of corporate health promotion or personal wellness training who desire to advise individuals and groups regarding eating choices and activity regimens to enhance performance and health.

The Interdisciplinary concentration, clearly the most flexible, is designed for those students with specific needs who would be best served by selecting a myriad of graduate courses from across campus. Individuals such as school nurses, epidemiologists, and industrial hygienists could benefit from the individualized approach offered in this concentration.

Admission Requirements
In addition to meeting the admission requirement of the Graduate College as outlined in the front of this catalog, applicants must also meet the requirements established by Department of Health Promotion faculty.

1. Interested applicants to the Master of Education degree in Health Promotion should have an undergraduate major in any health or allied health academic discipline. If admission is sought by students who have not earned a major described above, up to credits of additional HED 600-level course work may be required. These deficiencies do not count toward degree requirements.

2. Applicants must have a minimum overall undergraduate grade point average (GPA) of 3.00 on a 4.00 scale during their last 60 credits of undergraduate work.

3. An application for admission must be obtained from the Graduate College. Official transcripts of all colleges and universities attended should be submitted to the Graduate College and Department.

4. Two letters of recommendation, a two-page statement of professional goals, and a current vita should be submitted directly to the Department of Health Promotion.

Applications are processed when all credentials required by both the Graduate College and the Department of Health Promotion have been received and evaluated. The Graduate College will officially notify students of their acceptance. Additionally, the Department of Health Promotion staff will notify students of their advisor, who will work with the student to develop the individual plan of study.

Application deadlines include: March 15 for summer enrollment, July 1 for fall enrollment, and November 15 for spring enrollment.

**Degree Requirements**

The Master in Education in Health Promotion requires a minimum of 36 semester hours.

1. A student must maintain a 3.00 GPA.

2. A student may take courses full or part time, with day and evening classes available.

3. Students must either take a comprehensive exam and successfully complete an additional three credits of advisor approved course work or successfully complete HED 750 Graduate Project in Health Promotion to fulfill the requirement of a capstone experience in the degree program.

4. Master’s degrees must be completed within a six-year period, and continuous enrollment must be maintained throughout the six years.

**Curriculum**

The curriculum for the M.Ed. in Health Promotion consists of the following:

**Health Promotion Core Requirements - Total Credits: 12**

- HED 705 - Theoretical Foundations in Health Promotion
- HED 720 - Program Planning and Grant Writing in Health Promotion
- HED 730 - Program Evaluation in Health Promotion
- HED 735 - Practical Applications in Health Promotions

**Health Promotion Research Core Requirements - Total Credits: 9**

- HED 725 - Epidemiology and Public Health or
- EAB 705 - Epidemiology and Public Health or
- EPY 702 - Research Methods or
- EAB 700 - Research Methods for Public Health
- EPY 718 - Qualitative Research Methodologies or
• EOH 715 - Qualitative & Field Methods for Public Health
  or
• EPY 721 - Descriptive and Inferential Statistics: An Introduction
  or
• EAB 703 - Biostatistical Methods for the Health Sciences

Health Promotion Capstone Experience - Total Credits: 3

• HED 750 - Graduate Project in Health Promotion
  or
• Comprehensive Exam and advisor approved course(s)
  or
• HED 755 - Thesis Research

Selected Concentrations - Total Credits: 12

Administration Concentration

• HCA 701 - U.S. Health Care System: Programs and Policies
• HCA 703 - Management of Health Service Organizations and Systems
• HCA 704 - Health Care Economics
• HCA 705 - Health Care Accounting and Finance
• HCA 707 - Operations and Quality Management of Health Services
• HCA 708 - Information Systems in Health Services Management
• HCA 710 - Human Resources Management of Health Care Organizations
• HCA 761 - Health Care Law and Ethics for Managers
• PUA 701 - Principles of Public Administration
• PUA 704 - Seminar in Fiscal Administration
• PUA 713 - E-Government Implications for Public Sector Organizations

• PUA 708 - Seminar in Public Personnel Administration
• PUA 719 - Personnel Assessment and Selection
• PUA 740 - Urban Administration
• PUA 742 - State Government Administration
• PUA 792 - Current Issues in Public Administration

See the Department of Health Promotion for additional curricular information.

Communication Concentration

• COM 603 - Public Communication
• COM 604 - Principles of Persuasion
• COM 607 - Communication Between the Sexes
• COM 634 - Conflict Management
• COM 684 - Political Communication
• COM 706 - Seminar in Intercultural Communication
• COM 710 - Survey of Communication Studies
• COM 712 - Empirical Research Methods
• COM 725 - College Teaching in Communication
• COM 730 - Theories of Communication
• COM 741 - Social Movements as Rhetorical Form
• COM 780 - Persuasion
• COM 781 - Seminar in Argumentation
• COM 784 - Political Communication
• COM 789 - Selected Topics in Communication

See the Department of Health Promotion for additional curricular information.

Counseling Concentration

• COU 610 - Eating Disorders: Etiology and Treatment
• CED 639 - Problem Gambling Counseling I
• CED 640 - Problem Gambling Counseling II
- CED 645 - Trauma and Addiction
- CED 661 - Use and Application of Technology in Counseling
- CED 699 - Special Topics
- CED 700 - Special Problems: Counseling and Educational Psychology
- CED 701 - Introduction to Counseling
- CED 703 - Counseling with Expressive Arts and Activities
- CED 710 - Relationships Through the Lifespan
- CED 711 - Counseling Appraisal and Inquiry
- CED 713 - Introduction to School Counseling
- CED 715 - Counseling and Consultation Theories
- CED 721 - Career Theories and Practices
- CED 727 - Counseling Process and Procedures
- CED 733 - Introduction to Group Counseling
- CED 735 - Substance Abuse Prevention and Treatment
- CED 738 - Introduction to Community Mental Health Counseling
- CED 739 - Vocational Placement and Community Resources
- CED 742 - Introduction to Community Counseling
- CED 743 - Ethical and Legal Issues in Counseling
- CED 745 - Assessment, Treatment, and Case Management in Addictions
- CED 755 - Planning, Management, and Evaluation of Addictions and Mental Health Programs
- CED 766 - Psychopathology and Wellness Models in Counseling
- CED 772 - Counseling and Spirituality
- CED 781 - Problem Gambling Counseling
- CED 782 - Counseling with Potential Suicides
- CED 785 - Eating Disorders Counseling
- CED 789 - The Student in Higher Education

See the Department of Health Promotion for additional curricular information.

**Education Concentration**

- EDW 746 - History and Development of Two Year Postsecondary Institution
- EDW 747 - Workforce Education Teaching
- CIG 660 - Multicultural Education
- CIG 662 - Theory and Research Multicultural Education
- CIT 602 - Technology Applications Secondary Curriculum
- CIT 608 - Integrating Technology in Teaching and Learning
- CIG 601 - Curriculum and Instruction Urban Settings
- HED 607 - Stress Management
- SW 622 - AIDS: An Interdisciplinary Perspective

See the Department of Health Promotion for additional curricular information.

**An Interdisciplinary Perspective**

- HED 629 - Education for Sexuality
- HED 630 - Nutrition
- HED 635 - Health Studies on Dangerous Drugs
- HED 640 - Health Promotion and Wellness
- ECE 709 - Investigations in Early Childhood Education
- ESP 701 - Introduction to Special Education and Legal Issues

See the Department of Health Promotion for additional curricular information.

**Environmental Health Concentration**

- EOH 702 - Community Based Participatory Research Methods
For those students wishing to complete the coursework for a Certificate in Gerontology, the following must be completed:

- PSY 442 - Psychology of Aging (prerequisite PSY 101) usually offered every semester and the Summer
- KIN 461 - Physical Activity in Aging (usually offered every year, varies between Fall and Spring)
- KIN 462 - Adult Development in Aging (usually offered every year, varies between Fall and Spring)
- NUR 486 - Aging and Social Policy (every Spring)

**Nutrition and Fitness Concentration**

- KIN 605 - Sports Nutrition
- KIN 685 - Physical Activity and the Law
- KIN 691 - Exercise Physiology
- KIN 737 - Biomechanics of Strength
- KIN 739 - Evaluation of Physical Working Capacity
- KIN 740 - Advanced Exercise Physiology
- KIN 745 - Human Energy Metabolism

See the department for additional curricular information.

**Interdisciplinary Concentration**

In addition to the courses listed above, students may select, with guidance and approval from their advisor, any graduate-level course that meets individual and professional needs identified by students. The core courses in health promotion also provide substantive contributions to other graduate programs offered across campus. These programs include, but are not limited to, those programs offered by the College of Business and the departments of Communication Studies, counseling, Curriculum and Instruction, Economics, Educational...
Leadership, Kinesiology, Political Science, Psychology, Public Administration, Sociology, Special Education and the Schools of Journalism and Media Studies and Social Work.

The design of the concentration component must revolve around a consistent theme and be relevant to the goals and objectives of the program and of the student. Design is to ensure a breadth and depth in a supportive area of concentration such as curriculum and instruction, special education, health promotion, school athletic administration, educational leadership, education administration, sport and recreational management, and psychology of sport.

Public Health M.P.H

The Master of Public Health Degree Program is designed to prepare students to be public health professionals in the private and public sectors with the overall goal of promoting and protecting the health of individuals in our society. The Master of Public Health degree (MPH) is comprised of an 18-credit required core for every student. The 27 credits represent the four primary areas of specialty offered in Public Health programs, plus one additional course entitled Fundamentals of Public Health. The four speciality areas include: (1) Social and Behavioral Health, (2) Environmental and Occupational Health, (3) Health Care Administration and Policy, and (4) Biostatistics and Epidemiology. In addition to the core courses, each student will select one 27 to credit concentration area from one of the four aforementioned concentrations. All candidates will finish their MPH degree with a 3-6 credit capstone project resulting in a 45-credit degree program.

Educational Objectives

The purpose of the MPH Program is to prepare individuals to become effective health care practitioners, researchers and teachers who will competently identify public health problems and needs, develop effective strategies to address those needs, and promote appropriate services to be available for the protection of human health.

At a minimum, the following criteria should be met to assure each student a) develops an understanding of the areas of knowledge that are basic to public health, b) acquires skills and experience in the application of basic public health concepts and of specialty knowledge to the solution of community health problems, and c) demonstrates integration of knowledge through a capstone experience.

Admissions Requirements

To be considered for admission to the MPH, an applicant must:

1. Hold a bachelor’s degree or recognized equivalent from a regionally accredited institution and have adequate preparation in the biological, physical, or social sciences. A criterion for admission is at least a B (3.0) grade-point average or the equivalent in work completed after the first two years of a bachelor’s degree program and in all post-baccalaureate course work.
2. Completion of the school’s application process.
3. Submit a personal essay describing what you perceive to be pressing public health issues, why a career in the field appeals to you, and how it will use your strengths and commitment
4. Three letters of recommendation
5. Satisfactory score on the Test of English as a Foreign Language (TOEFL) is required for applicants whose first language is not English
6. Official copies of all transcripts sent to the Graduate College and unofficial copies to the School of Public Health

Degree Requirements

All students are required to complete six core courses including (18 credits): Biostatistics, Epidemiology, Fundamentals of Environmental and Occupational Health, Theoretical Principals of Health Promotion, Survey of U.S. Health Care Systems, and Fundamentals of Public Health. Additionally, all
students are required to complete a three credit internship and a Capstone Project. The Capstone Project requirement may be fulfilled by a professional paper or a thesis. Students will also be required to take seven courses (18-21 credits) in a concentration area and complete a capstone experience (3-6 credits). The total program of study is a minimum of 45 credits. A student must have at least a B (3.0) grade point average in all graduate work in order to graduate.

The MPH degree will be awarded only when all these requirements are met.

**MPH Core Course Requirements**  
**Total Credits: 18**

1. HED 710 - Fundamentals of Public Health  
2. EOH 740 - Fundamentals of Environmental Health  
3. EAB 705 - Epidemiology and Public Health  
4. HCA 701 - U.S. Health Care System: Programs and Policies  
5. HED 705 - Theoretical Foundations in Health Promotion  
6. EAB 703 - Biostatistical Methods for the Health Sciences

**Social and Behavioral Health Concentration -Total Credits: 27**

I. Students are required to take the following courses - Credits: 12

1. HED 720 - Program Planning and Grant Writing in Health Promotion  
2. HED 730 - Program Evaluation in Health Promotion  
3. EAB 700 - Research Methods for Public Health  
4. EAB 785 - Qualitative Methods  
5. EOH 705 - Social Epidemiology

II. Six (6) to Nine (9) credits may be selected from the following list:

- HED 607 Stress Management  
- HED 627 Methods in Health Education  
- HED 629 - Education for Sexuality  
- HED 630 Nutrition (credits: 3)  
- HED 635 Health Studies of Dangerous Drugs  
- HED 760 - Technology in Health Promotion  
- EOH 793 - Internship in Environmental Health

III. Internship Requirement-Total Credits: 3

EOH 793 - Internship in Environmental Health

** 3 credits are required, an additional 3 credits may be taken as an elective for a total of 6 credits of internship.**

IV. Capstone Requirement

HED 750 - Graduate Project in Health Promotion  

**or**  
HED 755 - Thesis Research

*Students opting to take HED 750 (3 credits) must take a total of 9 credits of electives to reach the required minimum of 45 hours.*

**Environmental and Occupational Health Concentration -Total Credits: 27**

I. Students are required to take the following courses -Credits: 12

1. EOH 601 - Advanced Environmental Toxicology  
2. EOH 717 - Food Safety and Public Health  
3. EOH 747 - Transmission of Infectious Disease  
4. EOH 765 - Seminar in Environmental Justice and Public Health  
5. EOH 732 - Children, Development, Health, and the Environment  
6. EOH 709 - Scientific/Technical Writing for the Health and Life Sciences
II. Six (6) to Nine (9) credits may be selected from the following list:
   EOH 705 - Social Epidemiology
   EOH 713 - Public Health Law
   EOH 715 - Qualitative & Field Methods for Public Health
   EOH 732 - Children, Development, Health, and the Environment
   EOH 757 - Parasitology and Public Health
   EOH 760 - Racial and Ethnic Disparities in Health
   EOH 765 - Seminar in Environmental Justice and Public Health
   EOH 767 - Bioaerosols and Human Health
   EOH 769 - Advanced Pollution Ecology
   EAB 716 - The Epidemiology of Obesity
   EOH 777 - Emerging Infectious Disease
   EOH 795 - Special Topics in Environmental Health

III. Internship Requirement-Total Credits: 3
   EOH 793 - Internship in Environmental Health
** 3 credits are required, an additional 3 credits may be taken as an elective for a total of 6 credits of internship.

IV. Required Capstone Project: Students must receive prior approval from their committee before registering for any capstone experiences.
   EOH 794 - Professional Paper in Environmental Health
   EOH 798 - Thesis Research
*Students opting to take EOH 794 (3 credits) must take a total of 9 credits of electives to reach the required minimum of 45 hours.

** Health Care Administration and Policy Concentration -Total Credits: 27 **

I. Students are required to take the following courses-Total Credits: 15

1. HCA 703 - Management of Health Service Organizations and Systems
2. HCA 705 - Health Care Accounting and Finance
3. HCA 706 - Strategic Management of Health Services
4. HCA 707 - Operations and Quality Management of Health Services
5. HCA 708 - Information Systems in Health Services Management

II. Plus one of the following 3 credit-hour course:
   HCA 704 - Health Care Economics
   HCA 711 - Advanced Health Care Finance
   HCA 652 Health Politics and Policy
   HCA 761 - Health Care Law and Ethics for Managers
   HCA 680 - Organization and Management of Long-Term Care Services
   HCA 713 - Internship in Health Care Administration
   or
   Other advisor approved courses from the pool of university approved graduate level courses.

III. Internship Requirement- Total Credits:3
   HCA 713 - Internship in Health Care Administration
** 3 credits are required, an additional 3 credits may be taken as an elective for a total of 6 credits of internship.

IV. Required Capstone Project
   HCA 709 - Health Care Administration Capstone Course
   or
   HCA 799 - Thesis Research
*Students opting to take HCA 709 (3 credits) must take a total of 6 credits of electives to reach the required minimum of 45 hours.
Biostatistics and Epidemiology
Concentration - Total Credits: 27

I. Students are required to take the following courses - Total Credits: 12

1. EAB 700 - Research Methods for Public Health
2. EAB 715 - Chronic Disease Epidemiology
3. EAB 725 - Epidemiology of Infectious Diseases
4. EAB 783 - Multivariate Methods for the Health Sciences

II. Students may select from one or two of the following - Total Credits: 3-6

   EOH 705 - Social Epidemiology
   EAB 720 - Grant Writing for Epidemiology and Public Health Research
   EAB 795 - Special Topics in Epidemiology and Biostatistics
   EAB 796 - Independent Study in Epidemiology and Biostatistics
   EAB 716 - The Epidemiology of Obesity
   EAB 733 - Survey Sampling for the Health Sciences
   EAB 735 - Outbreak Investigation
   EAB 743 - Experimental Design for the Health Sciences
   EAB 753 - Nonparametric Statistics for Public Health
   EAB 773 - Survival Analysis for Public Health

III. EAB 793 - Internship in Epidemiology and Biostatistics

Internship Requirement - Total Credits: 3

   EAB 793 - Internship in Epidemiology and Biostatistics

** 3 credits are required, an additional 3 credits may be taken as an elective for a total of 6 credits of internship.

IV. Required Capstone Project - Total Credits: 3-6

   * Students must receive prior approval from their committee before registering for any capstone experience.

   EAB 798 - Thesis Research in Epidemiology and Biostatistics
   EAB 794 - Professional Paper in Epidemiology and Biostatistics

Public Health Ph.D.

The Schools of Community Health Sciences (SCHS) at UNLV and UNR are pleased to offer a collaborative doctoral program (Ph.D.) in Public Health. The collaboration between the two schools represents a unique, statewide approach to public health training and research, drawing on complementary expertise and opportunities at both universities to create a high-quality academic program that maximizes resources and flexibility.

Educational Objectives

The Ph.D. in Public Health is designed to prepare students for careers in which advanced analytical and conceptual capabilities are required, such as university teaching, research, consulting, policy development or other high-level positions.

The curriculum was developed jointly by faculty from the Schools of Public Health at the University of Nevada, Reno, and the University of Nevada, Las Vegas, with input from representatives of academia and the public health community. The curriculum provides a comprehensive and interdisciplinary examination of topics and experiences necessary to produce graduates who are ready to secure employment in the public health arena.

Students in the program are admitted to either UNLV or UNR and follow the course requirements from their home institution. Courses may be taken at either
institution. A Chair from the admitting institution supervises the dissertation but the doctoral committee may include members from either or both institutions.

This program is competitive and space is limited. More students will apply than will be admitted. The most competitive students will have a strong academic record and a clear plan for their proposed research.

**Admission Requirements-UNLV**

Admission into the Public Health PhD Program through UNLV will require applicants to meet the standards of criteria of the UNLV Graduate College, applicable to all graduate students, both domestic and international, and contingent upon the qualifications of the applicant and the availability of positions. Students will be admitted once a year, for the fall semester. Applicants must have submitted all required materials by the June 1 deadline for admission in the following fall semester. Students will be admitted directly into the doctoral program and all admissions will require the final approval of the Dean of the UNLV Graduate College. In addition to the generic requirements of the UNLV Graduate College applicants will be expected to meet the following criteria:

1. Earned a bachelor's and Master's of Public Health (MPH) or a master's degree in an appropriate field from an accredited university. Applicants educated outside of the United States will need to demonstrate proof of equivalent education and advanced degrees.

2. A minimum grade point average of 3.0 (4.0=A) earned in a masters' program of study. The most competitive students will have a master's level GPA of 3.5 or higher.

3. Applicants must present competitive Graduate Record Exam (GRE) scores on verbal, quantitative and analytical measures. GRE scores will be assessed relative to other applicants in the pool, as well as relative to other graduate programs at UNLV. The exam must have been taken with the institutions' graduate school/college requirements. The most competitive students will have a combined verbal/quantitative GRE score of 1200 (old test) /300 (new test) or higher. The GRE is required for all applicants.

4. Demonstrated oral and written language competency-Applicants from countries where English is not the native language, or who do not receive a degree from an institution where English is the language of instruction must show competency in English, meeting the Graduate College or Graduate School requirements: "a minimum score of 550 on the written or 213 on the computerized Test of English as a Foreign Language (TOEFL) or 85 on the Michigan Test"

5. Letters of Recommendation- Three (3) letters of recommendation are required from faculty or other individuals who can evaluate the applicant's motivation, academic capability, scholarship potential, and personal goals for doctoral study.

6. Written Self-Presentation- Applicants must submit for review a written statement of personal career, educational and scholarship goals including identification of research interests. The most competitive students will clearly identify their plan for dissertation research and its contribution to the field of public health.

7. Interview-Applicants may be asked to participate in an interview with member(s) of the Admissions Committee, either in person or by telephone. Applicants may also be asked to submit a writing sample.

8. Applicants must identify an Area of Emphasis (sub plan) at the time of application.

**Degree Requirements**

Completion of the Ph.D. demonstrates that the graduate has the advanced research skills and
competencies necessary to succeed in high level research careers.

All students are required to successfully complete coursework that provides a public health foundation, and an Area of Emphasis in one of the three public health disciplines, and a minimum of 18 dissertation credits. Students must complete 54 credits beyond a Master of Public Health (MPH), or 63 credits beyond a Master's degree.

Upon admission each student will be assigned an academic (not dissertation) advisor who will help the student will begin planning a program of study. Students are expected to identify a dissertation committee before the end of their second semester in the program.

**Required Core Courses for All Doctoral Students (27 credits):**

All students are required to take the following 27 credit hours or their approved equivalent:

**UNLV Courses**
- EOH 740 - Fundamentals of Environmental Health
- EAB 703 - Biostatistical Methods for the Health Sciences
- HED 705 - Theoretical Foundations in Health Promotion
- EOH 747 - Transmission of Infectious Disease
- EAB 705 - Epidemiology and Public Health
- HCA 701 - U.S. Health Care System: Programs and Policies
- EOH 704 - Ethics in Public Health
- EOH 790 - Current Topics in Environmental Health and Epidemiology

All doctoral students will take 6 hours of Seminar. Seminars are from 1 to 3 credits, offered every semester, and cover a range of topics in the field.

**Areas of Emphasis**

In addition to the core courses, students will select 27 credits from a list of SCHS courses in an identified emphasis area in accordance with the advising plan developed with their academic advisor. The 27-credit requirement includes 6 hours of seminar, taken over the course of the program. Seminars are from 1 to 3 credits, offered every semester, and cover a range of topics in the field.

**Environmental and Occupational Health**

**UNLV Courses**

Students will select 5 courses from the below list:

- EOH 709 - Scientific/Technical Writing for the Health and Life Sciences
- ENV 711 - Risk Assessment and Risk Management
- ENV 712 - Environmental Risk Decision Making
- EOH 717 - Food Safety and Public Health
- EOH 737 - Public Health Microbiology
- EOH 757 - Parasitology and Public Health
- EOH 767 - Bioaerosols and Human Health
- EOH 765 - Seminar in Environmental Justice and Public Health
- PUBH 695 - Biochemical and Molecular Mechanisms of Toxicity
- EOH 769 - Advanced Pollution Ecology
- EOH 777 - Emerging Infections, Disease and the Environment
- HPS 680 - Industrial Hygiene
- HPS 781 - Industrial Hygiene II
- EAB 715 - Chronic Disease Epidemiology
- PUBH 620 - Biological Basis of Health & Disease
- PUBH 712 - Epidemiology in Public Health
- PUBH 753 - Health Informatics
- PUBH 776 - Essentials of Occupational Health
- EAB 715 - Chronic Disease Epidemiology
- PUBH 781 - Industrial Hygiene II
- PUBH 785 - Public Health Ethics
- PUBH 777 - Emerging Infections, Disease and the Environment

Students will also have a research requirement comprised of 3 courses from the list below:

- EAB 700 - Research Methods for Public Health
- EAB 733 - Survey Sampling for the Health Sciences
- EAB 753 - Nonparametric Statistics for Public Health
- EAB 763 - Linear Statistical Models
EAB 773 - Survival Analysis for Public Health
EAB 783 - Multivariate Methods for the Health Sciences

Students will select four courses from the list below:

- HCA 703 - Management of Health Service Organizations and Systems
- HCA 652 - Health Care Politics and Policy
- HCA 704 - Health Care Economics
- HCA 705 - Health Care Accounting and Finance
- HCA 706 - Strategic Management of Health Services
- HCA 707 - Operations and Quality Management of Health Services
- HCA 708 - Information Systems in Health Services Management
- HCA 710 - Human Resources Management of Health Care Organizations
- HCA 711 - Advanced Health Care Finance
- HCA 761 - Health Care Law and Ethics for Managers

AND a research requirement of

- HCA 715 - Health Services Research Methods
- EOH 715 - Qualitative & Field Methods for Public Health

plus two classes from the following list

- EAB 733 - Survey Sampling for the Health Sciences
- EAB 753 - Nonparametric Statistics for Public Health
- EAB 763 - Linear Statistical Models
- EAB 773 - Survival Analysis for Public Health
- EAB 783 - Multivariate Methods for the Health Sciences
- ECO 772 - Econometrics II
- MBA 715 - Market Opportunity Analysis

Social Behavioral Health

Students are required to take the following two classes plus 12 credits of additional committee approved courses.

- EOH 705 - Social Epidemiology
- EOH 760 - Racial and Ethnic Disparities in Health

Students also have a research requirement comprised of 3 credits of Research Methods from the following courses:

- EAB 700 - Research Methods for Public Health
- EAB 715 - Chronic Disease Epidemiology
- EAB 725 - Epidemiology of Infectious Diseases
- HED 730 - Program Evaluation in Health Promotion
- EOH 702 - Community Based Participatory Research Methods

And 3 credits of Data Analysis from the following courses:

- EAB 733 - Survey Sampling for the Health Sciences
- EAB 743 - Experimental Design for the Health Sciences
- EAB 753 - Nonparametric Statistics for Public Health
- EAB 763 - Linear Statistical Models
- EAB 773 - Survival Analysis for Public Health
- EAB 783 - Multivariate Methods for the Health Sciences

Health Services Management and Policy
Areas of Emphasis include:

Epidemiology and Biostatistics—under development—available Fall 2012

Dissertation

Additionally, all candidates will complete a minimum of 21 dissertation credit hours or 18 dissertation credit hours plus 3 credit hours of Prospectus as specified in the student's advising plan.

Program Completion Requirements

1. Credit Hours and Grade point Average
   A grade point average of at least a 3.0 must be maintained in all courses required for the degree; no grade less than a B in any course is acceptable for curricular completion of the program.

2. Comprehensive Examination: Test of Core Subject Matter of Program
   All students are required to complete a written Comprehensive Examination upon completion of the core courses of the program. The examination is designed to assess the student's ability to synthesize knowledge, as demonstrated by the selection and integration of information from several doctoral courses and is evaluated by written discussion in response to examination questions. The Comprehensive Examination may only be repeated once and must be repeated within one semester of the initial attempt. Students unable to pass the Comprehensive Examination after a second attempt will be separated from the program.

   After successful completion of the Comprehensive Exam the student must establish a Dissertation committee. The committee will include at minimum, a Chairperson with expertise in the student's Area of Emphasis; two additional committee members from the School of Community Health Sciences; and a Graduate College Representative. Students may also elect to add approved, external committee member with expertise in the student's selected area of emphasis.

3. Qualifying Examination
   Upon completion of all required coursework other than dissertation, each student must take a oral Qualifying Examination that will focus on those areas of knowledge most relevant to the student's dissertation topic. Qualifying examinations may only be repeated once and must be repeated within one semester of the initial attempt. If a student fails a second attempt, the student will be separated from the program.

4. Dissertation Prospectus
   Upon successful completion of the Qualifying examination, the student will present a dissertation prospectus to his/her committee and an oral presentation to peers and faculty. The prospectus is a written and oral presentation of the students dissertation research plan. The written prospectus should be the equivalent of the first three chapters of the dissertation. The oral presentation is a public presentation of the research plan. The prospectus becomes the agreement for the student’s dissertation research. Upon approval of the prospectus, the student advances to candidacy, can register for dissertation credits, and begin their independent research.

5. Final Oral Examination
   Upon completion of the dissertation, the student must pass a final oral examination that involves the public presentation and successful defense of their dissertation study. All advisory committee members must be present for the final defense and may question the student following presentation of the study. The defense will be scheduled and conducted in accordance with the Graduate College/School’s policies for dissertation completion. It is the student’s responsibility to file all required forms and written materials with the Graduate College in a timely manner.

EAB 700  Credits 3
Research Methods for Public Health
Provides a foundation in research methodology for public health professionals. Topics include basic sampling and experimental designs, quantitative and qualitative methods in research, mathematical and economic models in research, and multidisciplinary approaches to designing research programs.
Prerequisites EAB 703 or consent of instructor.

EAB 703  Credits 3
Biostatistical Methods for the Health Sciences
Designed to provide a foundation in biostatistics for graduate students in the health sciences. Topics include probability, distributions, estimation,
hypothesis testing, ANOVA, simple and multiple regression, vital statistics, and nonparametric methods. **Prerequisites** Undergraduate mathematics through calculus, comparable graduate coursework, or consent of instructor.

**EAB 704**  
**Research Integrity & Ethics**  
Designed to provide students with an understanding of how to conduct responsible research. Covers the concepts of scientific ethics and integrity broadly in order to provide a foundation for future research professionals. Topics include ethical principles, peer review, mentoring, IRB, collaborative research, and scientific record keeping.

**EAB 705**  
**Epidemiology and Public Health**  
Explores principles related to the distribution and causality of disease. Focuses on etiology, prevention and control of communicable and chronic human disease. Participants trained in basic epidemiological methodology, featuring case-series, case-control, experimental and cohort study designs.

**EAB 709**  
**Scientific/Technical Writing for the Health and Life Sciences**  
Technical writing skills are critical to success in publication of scientific journal articles, approval of research grant submissions, and acceptance of thesis/dissertation requirements. In this course students will study techniques and develop skills in technical writing useful to professionals in health care and life sciences.

**EAB 710**  
**Fundamentals of Public Health**  
Introduces students to public health concepts and practice. Provides broad overview of the field of public health and focused look at core areas of health promotion and education, environmental health, epidemiology and biostatistics, and health care administration in the public health arena.

**EAB 715**  
**Chronic Disease Epidemiology**  
Surveys the major chronic diseases with an emphasis on recent epidemiological research and findings, demographic and populations aspects of chronic illness, causation and risk factors, prevention, and control. **Prerequisites** HED 725 or consent of instructor.

**EAB 716**  
**The Epidemiology of Obesity**  
Credits 3  
Describes the epidemiology and prevention of obesity and associated complications. Discusses methodological issues associated with evaluating epidemiologic studies that target obesity. Designed to cover the global epidemic of obesity, the environmental and behavioral risk factors, as well as interventions to reduce and prevent obesity.

**EAB 720**  
**Grant Writing for Epidemiology and Public Health Research**  
Credits 3  
Covers the process of designing competitive research grant proposals from conceptualization to grant management. **Prerequisites** Core epidemiology class, research methods.

**EAB 725**  
**Epidemiology of Infectious Diseases**  
Credits 3  
Introduces the basic concepts in infectious disease epidemiology. Students develop a basic conceptual understanding and analytic skills in the investigation and control of infectious diseases in human populations. Students describe the most common infectious diseases, including their transmission, pathogenesis, treatment, prevention, and control. **Prerequisites:** Admission to the School of Public Health or consent of instructor.

**EAB 733**  
**Survey Sampling for the Health Sciences**  
Credits 3  
Introduces the basics of sampling theory and application in the health sciences. Several popular designs will be covered in depth. Other topics include sources of error in sampling, design of surveys, and population size determination. **Prerequisites:** EAB 703 or consent of instructor.

**EAB 735**  
**Outbreak Investigation**  
Credits 3  
Students will work through simulated outbreak situations, culminating in a lengthy simulation of an outbreak. Students will be responsible for all aspects of the investigation including report writing. Through partnership with community health agencies, students will have the opportunity to assist in actual outbreak investigations occurring during the semester. **Prerequisites** HED 725/EAB 705 or equivalent.

**EAB 743**  
**Experimental Design for the Health Sciences**  
Credits 3  
Provides thorough coverage of experimental design for student in the health sciences. Topics include
single factor designs, factorial experiments, within-factor designs, nested designs, analysis of trend, and general linear models. **Prerequisites** EAB 703 or consent of instructor.

**EAB 745 Credits 3**
**Epidemiological Surveillance**
Students will explore systems currently in place, both in the United States and internationally, and will learn the methodology used to analyze surveillance data. Students will learn about effective surveillance systems through lecture and case studies of existing surveillance systems.

**EAB 753 Credits 3**
**Nonparametric Statistics for Public Health**
Designed to provide a strong foundation in nonparametric statistical methods commonly used in public health. Topics explored in the course include ranked data, transformation of ranks, methods for paired and independent samples, nonparametric regression and correlation, categorical data analysis, and robust estimation. **Prerequisites** Graduate level biostatistics.

**EAB 755 Credits 3**
**Cancer Epidemiology**
This course is an introduction to cancer epidemiology. The objective is to make the student use, learn and consolidate basic analytic skills in developing research projects in cancer. It includes among others the following topics: trends, biology of cancer, issues in prostate, breast, colorectal, lung, and cervical cancer, cancer screening, GIS and spatial analysis in cancer, survival, and migrant studies.

**EAB 763 Credits 3**
**Linear Statistical Models**
Explores the foundations and applications of linear statistical models. Applications include simple, multivariate, and logistic regression; time series analysis; single /multiple-factor ANOVA; random and mixed effects models; and ANCOVA. Several experimental designs will also be explored. **Prerequisites** Graduate level biostatistics.

**EAB 773 Credits 3**
**Survival Analysis for Public Health**
Explores the broad area of survival analysis for analyzing data derived from laboratory, clinical, and epidemiological studies. Methods explored in this course include survival functions, data censoring, hazard models, regression models, and parametric/nonparametric methods for comparing survival models. **Prerequisites** EAB 753 and EAB 763.

**EAB 783 Credits 3**
**Multivariate Methods for the Health Sciences**
Provides an in-depth coverage of common multivariate methods. Topics include multivariate correlation and regression, multivariate ANOVA, logistic regression, factor analysis, time series analysis, and principle component analysis. Emphasis placed on application of techniques useful for students in the health sciences. **Prerequisites** EAB 773 or consent of instructor.

**EAB 790 Credits 1-3**
**Current Topics in Environmental Health and Epidemiology**
This is an advanced seminar course directed by members of the Department of Environmental and Occupational Health and the Epidemiology and Biostatistics Program. Seminars will be facilitated by faculty members based on their particular areas of research interest and expertise.

**EAB 793 Credits 1 – 3**
**Internship in Epidemiology and Biostatistics**
Capstone experiences for the MPH degree and is intended to provide students with applied work experience in a local agency, organization, center or institute. **Notes** May be repeated to a maximum of six credits. **Prerequisites** Admission to the School of Public Health or consent of instructor.

**EAB 794 Credits 3**
**Professional Paper in Epidemiology and Biostatistics**
Provides the opportunity for a graduate degree candidate to be involved in an in-depth project. A formal paper and presentation describing the project culminate this experience. **Notes** May be repeated to a maximum of six credits. **Prerequisites** Admission to the School of Public Health or consent of instructor.

**EAB 795 Credits 1 – 3**
**Special Topics in Epidemiology and Biostatistics**
Selected topic of current interest in epidemiology and biostatistics. **Notes** May be repeated to a maximum of six credits. **Prerequisites** Admission to the School of Public Health or consent of instructor.

**EAB 796 Credits 1 – 3**
**Independent Study in Epidemiology and Biostatistics**
Independent study of a selected topic in Epidemiology or Biostatistics. **Prerequisites**
Admission to the School of Public Health or consent of instructor.

**EAB 798**  
**Credits 1 – 6**  
**Thesis Research in Epidemiology and Biostatistics**
**Notes** May be repeated, but a maximum of six credits will apply towards the student’s degree program.

**EOH 601**  
**Advanced Environmental Toxicology**
The following course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**HED 629**  
**Education for Sexuality**
Graduate credit may be obtained for this course designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Credit at the 600 level normally requires additional work.
Environmental & Occupation Health

Chair

Gerstenberger, Shawn
(1997) Professor and Chair of Environmental and Occupational Health; B.S. University of Wisconsin-Platteville; M.S., PhD. University of Illinois.

Graduate Faculty

Bungum, Timothy
(2001) Associate Professor of Biostatistics and Epidemiology; B.A. Luther College; M.S., DPH University of South Carolina.

Buttner, Mark P.
(1989) Associate Professor of Environmental and Occupational Health; B.S. University of Wisconsin; M.S. University of Nevada Las Vegas, PhD University of Nevada Reno.

Chino, Michelle
(2000) Associate Professor of Environmental and Occupational Health, B.S., M.S., PhD. University of South Carolina.

Cross, Chad
(2005) Associate Professor of Biostatistics and Epidemiology; B.S., Purdue University; M.S., PhD. Old Dominion University.

Cruz, Patricia
(1995) Associate Professor of Environmental and Occupational Health, B.S. University of Puerto Rico, M.S. University of Central Florida, PhD. University of Nevada Reno.

Dodge Francis, Carolee
(2007) Assistant Professor of Environmental and Occupational Health; B.S., M.A., Ed.D., University of St. Thomas.

Moonie, Sheniz

(2006) Assistant Professor of Biostatistics and Epidemiology, BS University of California San Diego; MS California Polytechnic University, Pomona; PhD Saint Louis University

Stetzenbach, Linda
(2005) Professor Emeritus of Environmental and Occupational Health; B.S., M.S., PhD. University of Arizona.

Thompson-Robinson, Melva
(2004) Associate Professor of Environmental and Occupational Health, B.S. University of Michigan, M.S., Ohio University, D.P.H. University of South Carolina.

Wong, David
(2008) Associate Research Professor. B.Sc., M.Sc. Ocean University of Qingdao, PhD. City University of Hong Kong.

The mission of the Department of Environmental and Occupational Health is to advance the health of all people in the United States and around the world through research and training in environmental health. The department emphasizes the role of air, water, the home environment, and the workplace as critical determinants of health.

Program

- Environmental & Occupational Health M.P.H.
- Public Health Ph.D.

EOH 702 Credits 3
Community Based Participatory Research Methods
Teaches the philosophy and methods of community based participatory research. Focus on traditional research methods and their application to community health research as well as strategies for developing research partnerships, community consent, and essential competencies for research with diverse communities.

EOH 705 Credits 3
Social Epidemiology
Focuses on the social determinants of health and the health implications of social phenomena such as class, discrimination, and work. Students will examine life course hypotheses and the impact of early exposure to disease in later life as well as intervention strategies that incorporate social change elements. Prerequisite: Core epidemiology class.

EOH 709
Scientific/Technical Writing for the Health and Life Sciences
Technical writing skills are critical to success in publication of scientific journal articles, approval of research grant submissions, and acceptance of thesis/dissertation requirements. In this course students will study techniques and develop skills in technical writing useful to professionals in health care and life sciences.

EOH 710
Fundamentals of Public Health
Introduces students to public health concepts and practice. Provides broad overview of the field of public health and focused look at core areas of health promotion and education, environmental health, epidemiology and bio statistics, and health care administration in the public health arena.

EOH 711
Diseases that Changed the World
Human disease has played a significant role in social and political changes worldwide. In this course students will study the impact of people and disease on historical events, and present written and oral discussions of selected topics including how these events impact public health.

EOH 713
Public Health Law
Examines the history of public health law and the role, authority and limitations of government to enact and enforce such laws. Students will examine the development of public health laws and the relationship between government entities in carrying out the laws.

EOH 715
Qualitative & Field Methods for Public Health
This course will provide students with the content/skills needed to conduct community-based participatory field research. This course will explore several topics related to qualitative research: theoretical aspects of qualitative research, negotiating community, designing the study, ethnographic observations, triangulating data, and writing a field study report.

EOH 717
Food Safety and Public Health
Foodborne illness has a significant impact on public health. In this course students will study microbiological and chemical aspects of food safety including factors that affect growth or organisms in food and production of toxins that can result in foodborne illness.

EOH 732
Children, Development, Health, and the Environment
Focuses on health issues specific to children age 0-18, such as abuse and neglect, insurance, nutrition, immunization, mental health, substance abuse, sexuality and chronic disease. Students will examine the unique status of children in the public health system as well as systemic approaches to improving services and policies. Prerequisites MPH core classes.

EOH 735
Outbreak Investigation
Students will work through simulated outbreak situations, culminating in a lengthy simulation of an outbreak. Students will be responsible for all aspects of the investigation including report writing. Through partnership with community health agencies, students will have the opportunity to assist in actual outbreak investigations occurring during the semester.

EOH 740
Fundamentals of Environmental Health
This course will address chemical, physical and biological factors in the environment and their relationship to the health of the human population.

EOH 745
Epidemiology & Biostatistics
Students will explore systems currently in place, both in the United States and internationally, and will learn methodology used to analyze surveillance data. Students will learn about the effective surveillance systems through lecture and case studies of existing surveillance systems. Prerequisites HED 725/EAB 705 or equivalent

EOH 747
Transmission of Infectious Disease
Exposure to disease causing microorganisms occurs via inhalation, ingestion, and dermal contact.
Students will study transmission of selected microorganisms via the air, water, food, vectors, and person-to-person contact.

EOH 757 Credits 3
Parasitology and Public Health
Parasitic infections resulting from exposure to parasites that invade the intestine, blood, or tissues of humans can result in serious disease. This course will discuss a variety of human parasites, resulting disease, and treatment and control strategies to minimize exposure and health impacts.

EOH 760 Credits 3
Racial and Ethnic Disparities in Health
Explore the causes of health disparities and potential remedies for health-related inequities that associate with race, ethnicity, social class and culture. Students will develop skills necessary to recognize personal and institutionalized bias which interferes with clinical decision-making, health policy, and health system structural development.

EOH 765 Credits 3
Seminar in Environmental Justice and Public Health
Explores the impact of environmental hazards on community health and examine strategies for developing justice resources and effective policy change. Students will examine actual cases and their health and policy outcomes. Focus on community based strategies for research, advocacy, and environmental change. Prerequisites: EOH and MPH core classes.

EOH 766 Credits 3
Biological Invasions and Environmental Health
This class covers topics with regard to the human introduction, impacts, and prevention of invasive species to environmental health, such as invasion theory, species distinction, ecosystem health, social and economic impacts, invasive species control and management.

EOH 767 Credits 3
Bioaerosols and Human Health
Bioaerosols are biological materials that can elicit adverse health effects when humans are exposed in indoor and outdoor environments. This course will present the physical and environmental parameters that affect the dispersal, transport, and survival of bioaerosols, detail specific bioaerosols of concern, and discuss the human health impacts of exposure.

EOH 769 Credits 3
Advanced Pollution Ecology
This course will address the major effects of pollution on aquatic organisms and ecosystems.
Prerequisites EOH 740 or permission of instructor.

EOH 775 Credits 3
Injury Epidemiology
This course will teach students about the epidemiology of intentional and unintentional injury. The course will include the basic concepts of injury prevention, injury surveillance, strategies for injury control, developing injury prevention programs, and designing injury research and evaluation.
Prerequisites Core Epidemiology and Research Methods.

EOH 777 Credits 3
Emerging Infectious Disease
Re-emerging and newly recognized/emerging infections diseases are having a significant on public health world-wide. This course will present a variety of new diseases resulting from exposure to emerging and re-emerging microbial pathogens and suggested treatment and control strategies to minimize exposure and health impacts.

EOH 790 Credits 1-3
Current Topics in Environmental Health and Epidemiology
This is an advanced seminar course directed by members of the Department of Environmental and Occupational Health and the Epidemiology and Biostatistics Program. Seminars will be facilitated by faculty members based on their particular areas of research interest and expertise.

EOH 793 Credits 1 – 3
Internship in Environmental Health
The environmental internships is one of the capstone experiences for the MPH degree and is intended to provide students with applied work experience in a local agency, organization, center or institute.
Notes May be repeated to a maximum of six credits.
Prerequisites Admission to the School of Public Health or consent of instructor.

EOH 794 Credits 3
Professional Paper in Environmental Health
This capstone experience provides the opportunity for a graduate degree candidate to be involved in an in-depth project either written or experimental in nature. A formal paper and presentation describing the project culminate this experience. Notes May be
repeated to a maximum of six credits. **Prerequisites** Admission to the School of Public Health or consent of instructor.

**EOH 795**  
Special Topics in Environmental Health  
Selected topic of current interest not covered in any existing courses in environmental and occupational health. **Notes** May be repeated to a maximum of six credits. **Prerequisites** Admission to the School of Public Health or consent of instructor.

**EOH 796**  
Independent Study in Environmental Health  
Independent study of a selected topic in Environmental and Occupational Health. **Notes** May be repeated to a maximum of six credits. **Prerequisites** Admission to the School of Public Health or consent of instructor.

**EOH 798**  
Thesis Research  
**Notes** May be repeated, but a maximum of six credits will apply towards the student's degree program.  
**Grading** S/F grading only.

**EOH 799**  
Dissertation  
Dissertation in Environmental and Occupational Health **Notes** May be repeated to a maximum of 12 credits **Prerequisites** PhD standing
Health Care
Administration & Policy

Chair

Moseley, Charles
(1991) Associate Professor of Health Care Administration; Ph.D., Virginia Commonwealth University.

Graduate Coordinator

Cochran, Christopher
(1997) Associate Professor of Health Care Administration; B.A. University of Texas, El Paso; M.P.A., Ph.D., University of South Carolina.

Graduate Faculty

Ginn, Gregory
(2000) Associate Professor of Health Care Administration; B.A., M.Ed., MBA, Ph.D., University of Texas, Austin.

Shen, Jie
(2006) Associate Professor of Health Care Administration and Policy; Ph.D., Virginia Commonwealth University.

The Health Care Industry is one of the three largest industries in the United States based on revenues, total assets or number of employees. Opportunities for employment in health care organizations are abundant in the Las Vegas Valley.

Job opportunities occur in the following types of organizations:

- Hospitals
- Ambulatory care facilities
- Long-term care facilities
- Medical practices
- Insurance companies
- Public health agencies
- Mental health programs
- Managed care organizations
- Community health programs

Students in the Health Care Administration M.H.A. gain a broad view of the health care delivery system and develop an understanding of health and disease. They develop analytical skills through the curriculum and internships to prepare them for leadership positions in the organization, financing, and delivery of health care services.

Program

- Health Care Administration M.H.A.
  Display Courses

Return to: School of Community Health Sciences

Health Care Administration M.H.A.

Return to: School of Community Health Sciences

The Master of Health Care Administration Degree Program is the only graduate Health Care Administration program in the Nevada Public University System (NSHE). The MHA will prepare students to assume leadership roles in health care organizations. The degree is recognized in the health care field as an important credential that allows graduates to assume health care management positions. The curriculum is developed to include all the critical competencies for health care leadership, including issues of health care delivery, health care finance, ethical and legal issues in health care administration and management topics. Students and faculty will contribute through research and service to the knowledge and applications of management in health care; and they will use their education and expertise to help meet the health care management needs of the State of Nevada and beyond.
Admission Requirements

To be considered for admission, an applicant must meet Graduate College standards and:

1. Hold a bachelor’s degree or recognized equivalent from a regionally accredited institution. A criterion for admission is at least a B (3.0) grade point average, or equivalent in work completed after the first two years of a bachelor's degree program, and in all post-baccalaureate course work. An applicant who does not meet this academic criterion may request special consideration.
2. Submit a one to two page personal essay describing why they want to pursue a career in health care management
3. Submit three letters of recommendation
4. Submit a resume
5. In addition, a satisfactory score on the Test of English as a Foreign Language (TOEFL) is required for applicants whose first language is not English.

MHA required courses

The Master of Health Care Administration
HCA/MHA degree has a 51 credit required core (54 credits if the student chooses to complete a thesis to meet the capstone requirement). The following courses constitute the required core:

- HCA 701 Credits 3
- HCA 702 Credits 3
- HCA 703 Credits 3
- HCA 704 Credits 3
- HCA 705 Credits 3
- HCA 706 Credits 3
- HCA 707 Credits 3
- HCA 708 Credits 3
- HCA 709 Credits 3
- HCA 710 Credits 3
- HCA 713 Credits 3 – 6
- HCA 715 Credits 3
- HCA 761 Credits 3
- HCA 799 Credits 3
- EAB 703 Credits 3
- EOH 710 Credits 3

- HCA 701 Credits 3
  U.S. Health Care System: Programs and Policies
  Examines the manpower, financing and major service components of the US health care system. Addresses major issues of health care access, costs, and quality of care. Special emphasis on the role of government regulation and public policy in the system.
  Prerequisites Graduate standing.

- HCA 702 Credits 3
  Epidemiology in Health Services Management
  Examination and synthesis of concepts and an application of methods appropriate to epidemiology from a managerial perspective.

- HCA 703 Credits 3
  Management of Health Service Organizations and Systems
  Theories and practice of the management of health services. Analysis and evaluation of the management functions and roles, organizational theories and behavioral perspectives and health care policy issues as they apply to health services management.

- HCA 704 Credits 3
  Health Care Economics
  Application of economic theory to study of health markets and institutions. Impact of insurance on demand for and supply of health care analyzed. Competition and regulation as forces in health care industry discussed from an economic perspective.
  Prerequisites Three hours undergraduate microeconomics or consent of instructor.

- HCA 705 Credits 3
  Health Care Accounting and Finance
  Introduction to financial and managerial accounting in the context of the health care industry. Also introduces concepts from finance for use in the decision making process. Prerequisites Admission to the MPH program, MHA program, or consent of instructor.

- HCA 706 Credits 3
  Strategic Management of Health Services
  Emphasis on concepts of strategic and operational management for health care organizations. Also covers managerial epidemiology and marketing. Utilizes case studies. Prerequisites HCA 705

- HCA 707 Credits 3
  Operations and Quality Management of Health Services
Introduces concepts of operations management in the context of the health care industry. Covers analytical techniques in the context of quality management. **Prerequisites** Graduate standing.

**HCA 708**  
**Information Systems in Health Services Management**  
Understanding of computerized needs of health services managers. Examines decision making process, information needs of various decisions and how “decision support systems” meet these needs. Major types of information systems examined, include financial, patient care & strategic management systems. **Prerequisites** Graduate standing.

**HCA 709**  
**Health Care Administration Capstone Course**  
Capstone experience provides the Health Care Administration graduate degree candidate the option to select one of the following: an indepth project or a comprehensive examination. **Notes** The project option requires a formal paper and a presentation. **Grading** S/F grading only **Prerequisites** Last semester in program or consent of instructor.

**HCA 710**  
**Human Resources Management of Health Care Organizations**  
Covers structural and behavioral systems and human resources process systems. Taught from the perspective of strategic management and in the context of the legal environment for health care organizations.

**HCA 711**  
**Advanced Health Care Finance**  
Further study of financial management in the context of the health care industry. **Prerequisites** HCA 705 or the equivalent.

**HCA 713**  
**Internship in Health Care Administration**  
Provides students with an applied work experience in a local health services organization. Course is faculty supervised and requires written reports and other structured assignments. **Notes** May be repeated to a maximum of six credits. **Prerequisites** Consent of instructor.

**HCA 715**  
**Health Services Research Methods**
Health Promotion Program

Chair

Gerstenberger, Shawn
(1997) Associate Professor and Chair of Environmental and Occupational Health; B.S. University of Wisconsin-Platteville; M.S., Ph.D. University of Illinois.

Graduate Coordinator

Thompson-Robinson, Melva
(2004), Associate Professor; B.S., University of Michigan; M.S.P.E., Ohio University; Dr. PH., University of South Carolina.

Graduate Faculty

Bungum, Timothy
(2001) Associate Professor of Biostatistics and Epidemiology; B.A. Luther College; M.S., D.P.H University of South Carolina.

Buttner, Mark P.
(1989) Associate Professor of Environmental and Occupational Health; B.S. University of Wisconsin; M.S. University of Nevada Las Vegas, PhD University of Nevada Reno.

Chino, Michelle
(2000) Associate Professor of Environmental and Occupational Health, B.S., M.S., Ph.D. University of New Mexico.

Cochran, Christopher
(1997) Associate Professor of Health Care Administration and Policy; B.A. University of Texas, El Paso; M.PA., Ph.D. University of South Carolina.

Cross, Chad

Dodge Francis, Carolee
(2007) Assistant Professor of Environmental and Occupational Health; B.S., M.A., Ed.D., University of St. Thomas.

Ginn, Gregory
(2000) Associate Professor of Health Care Administration and Policy; B.A., M.Ed., MBA, Ph.D. University of Texas, Austin.

McNab, Warren
(1979), Professor; B.S., M.S., Mankato State University; Ph.D., Southern Illinois University.

Moonie, Sheniz
(2006) Assistant Professor of Biostatistics and Epidemiology, BS University of California San Diego, MS California Polytechnic University, Pomona, PhD Saint Louis University

Moseley, Charles
(1991) Associate Professor and Chair of Health Care Administration and Policy; Ph.D. Virginia Commonwealth University.

Regin, Charles
(1987), Assistant Professor; B.S., M.S., University of Wisconsin-La Crosse; Ph.D., Southern Illinois University at Carbondale.

Shen, Jie
(2006) Associate Professor and Chair of Health Care Administration and Policy; Ph.D. Virginia Commonwealth University.

Wong, David
(2008) Associate Research Professor. B.Sc., M.Sc. Ocean University of Quingdao, PhD. City University of Hong Kong.

Master of Education in Health Promotion
The goal of the 36-semester credit hour Health Promotion graduate program is to provide students with the theory, knowledge, and skills needed to integrate the principles of health promotion into a variety of community, research, clinical, business or school settings and/or to pursue advanced study. Specifically, the Health Promotion degree program will prepare students to: 1) assess and communicate individual, family, and community needs, 2) plan, implement, evaluate, and administer programs, 3) act as a resource person by coordinating provisions for services and applying appropriate research principles and methods, and 4) advance the goals of job-related professional organizations. To this end, eight concentrations in the Health Promotion degree are offered.

The **Administration** concentration is designed for those interested in assuming leadership roles in their organization such as health program planners, health care project specialists, or health officers. The Communication concentration is designed for individuals interested in the dissemination of health promoting information and skills through varied strategies leading to health media specialist or health communication expert occupations.

The **Counseling** concentration is designed for anyone wishing to assist others one on one or in small groups regarding effective and positive strategies dealing with critical health issues. Such professionals include, but are not limited to, employee assistance program educators, patient educators, or mental health counselors.

The **Education** concentration is designed to improve the delivery skills of any educator at any teaching level, at varied sites such as school health teachers, public health educators, and employee wellness associates.

The **Environmental Health** concentration is designed for those individuals seeking occupations such as health and safety specialists or environmental health consultants due to an interest in the relationship that exists between the physical environment and the health of individuals and groups in that environment.

The **Gerontology** concentration is designed for individuals who are interested in health promotion strategies geared specifically for older adults delivered through professional roles such as gerontology outreach workers or program planners for seniors.

The **Nutrition and Fitness** concentration is designed for those interested in the fields of corporate health promotion or personal wellness training who desire to advise individuals and groups regarding eating choices and activity regimens to enhance performance and health.

The **Interdisciplinary** concentration, clearly the most flexible, is designed for those students with specific needs who would be best served by selecting a myriad of graduate courses from across campus. Individuals such as school nurses, epidemiologists, and industrial hygienists could benefit from the individualized approach offered in this concentration.

**Admission Requirements**

In addition to meeting the admission requirement of the Graduate College as outlined in the front of this catalog, applicants must also meet the requirements established by Department of Health Promotion faculty.

1. Interested applicants to the Master of Education degree in Health Promotion should have an undergraduate major in any health or allied health academic discipline. If admission is sought by students who have not earned a major described above, up to credits of additional HED 600-level course work may be required. These deficiencies do not count toward degree requirements.

2. Applicants must have a minimum overall undergraduate grade point average (GPA) of 3.00 on a 4.00 scale during their last 60 credits of undergraduate work.

3. An application for admission must be obtained from the Graduate College. Official transcripts of all colleges and universities attended should be submitted to the Graduate College and Department.

4. Two letters of recommendation, a two-page statement of professional goals, and a current vita should be submitted directly to the Department of Health Promotion.

Applications are processed when all credentials required by both the Graduate College and the Department of Health Promotion have been received and evaluated. The Graduate College will officially notify students of their acceptance. Additionally, the
Department of Health Promotion staff will notify students of their advisor, who will work with the student to develop the individual plan of study. Application deadlines include: March 15 for summer enrollment, July 1 for fall enrollment, and November 15 for spring enrollment.

For details of the Master of Public Health program, please see the School of Public Health information. The Department of Health Promotion offers the Master of Education (Health Promotion M.Ed.) a Master of Public Health (Public Health M.P.H.) degrees with an emphasis in Health Promotion.

**Program**
- Health Promotion M.Ed.

**HED 700**  Credits 3
*Contemporary Issues in Health Promotion*
Selected studies in health promotion, health education or health-related area addressed through readings, discussions, and/or presentations. **Notes** Specific topic(s) announced in the schedule of classes. May be taken up to a maximum of six credits. **Prerequisites** Graduate standing, consent of instructor and/or degree program advisor.

**HED 705**  Credits 3
*Theoretical Foundations in Health Promotion*
Study of the social, cultural, demographic, political, and educational foundations of health promotion. Professional and practice settings in health promotion reviewed. Traditional and contemporary concepts of treatment, intervention, and prevention as applied to health promotion investigated.

**HED 710**  Credits 3
*Fundamentals of Public Health*
Introduces students to public health concepts and practice. Provides broad overview of the field of public health and focused look at core areas of health promotion and education, environmental health, epidemiology and biostatistics, and health care administration in the public health arena.

**HED 720**  Credits 3
*Program Planning and Grant Writing in Health Promotion*
Principles of program planning based on assessing individual and community needs and techniques to evaluate the effectiveness of health promotion programs. Also designed to analyze the process to obtain fiscal resources through grants, contracts, and other internal and external sources. **Prerequisites** HED 700, 705

**HED 725**  Credits 3
*Epidemiology and Public Health*
Explores principles related to the distribution and causality of disease. Focuses on etiology, prevention and control of communicable and chronic human disease. Participants trained in basic epidemiological methodology, featuring case-series, case-control,

**HED 730**  Credits 3
*Program Evaluation in Health Promotion*
Provides overview of processes and skills required to effectively evaluate health programs. Formative, summative, process, and outcome evaluation methods discussed for application in a variety of professional settings. Includes socio-cultural, political, administrative, and ethical issues in conducting evaluation. **Prerequisites** HED 700, 705, 720

**HED 735**  Credits 3
*Practical Applications in Health Promotions*
Identification and development of methods and strategies within the health education system which influence decisions about personal, family, organizational, and community health promotion. Emphasis on developing competency in planning and implementation of classrooms and clinical teaching strategies and health information dissemination. **Prerequisites** HED 700, 705, 720

**HED 750**  Credits 3
*Graduate Project in Health Promotion*
Capstone experience provides health promotion graduate degree candidate with opportunity to be involved with indepth project either written, experiential, or combination in nature. Planned and carried out under graduate faculty approval and supervision.

**HED 755**  Credits 1-9
*Thesis Research*
May be repeated, but a maximum of 9 credits will apply towards the student's degree program. **Grading** S/F grading only **Prerequisites** HED 735

**HED 760**  Credits 3
*Technology in Health Promotion*
Use of current technology as it relates to health issues. Provides knowledge and skills to the health professional to enhance utilization of technology applications.

**HED 785**  Credits 1 – 3
*Independent Study in Health Promotion*
Individually arranged study of areas of health promotion not covered in depth in other courses.

Notes May be repeated up to a maximum of six credits. 

Prerequisites Consent of instructor and graduate program advisor.
School of Dental Medicine

The UNLV School of Dental Medicine, which accepted its Inaugural Class in August of 2002, has been designed to serve our local community and the state of Nevada in oral health care, health services, research and scholarly activities. Education of dental students will be accomplished through a competency based curriculum with a special emphasis on biomedical sciences, professional studies and an innovative vertically integrated team approach for clinical instruction and delivery of patient care. The School of Dental Medicine is recruiting and employing a diverse and distinguished faculty to facilitate the program. The competency-based education program has at its core a student and patient entered environment designed to maximize learning and patient care delivery. Beginning dentists will be exposed to in depth studies of biological and clinical sciences as well as biomedical and bio-ethical disciplines. Students will encounter a broad spectrum of clinical experiences to prepare them for entry into the profession. These experiences will begin in year one of the curriculum, and clinical responsibilities will expand in scope and depth throughout the four years. During year four, students will have the opportunity to select placement in a variety of clinically supervised community settings. They will also have extensive exposure to business and financial management designed to meet the challenges of dental practice. Furthermore, they will be introduced to principles of research, will have an opportunity to conduct independent research and will be encouraged to pursue scholarly activities with the possibility of creating a career in academic dentistry. Training will occur in state of the art facilities designed to achieve the goals of the dental academic program. Today’s dental professional needs a learning environment that offers interaction with other medical professionals and facilitates diagnosis and treatment to improve the patient’s overall health. The dental school is adopting this new reality and keeping it at the forefront as it designs the teaching facility at the UNLV Shadow Lane campus. The building is part of a regional campus that is expected to house the university’s biotech research center, including the UNLV Cancer Institute. Students will have access to the latest technology with other health care professionals in diagnosing disease and treating patients. By the time of graduation, students will be competent and confident to begin a rewarding career as a provider of comprehensive oral health care. For additional information, visit http://dentalschool.unlv.edu.

Karen P. West, Dean
(2006), D.D.M., University of Louisville; M.P.H., University of South Carolina.

Programs

- Business Administration & Dental Medicine Dual M.B.A./D.M.D.
- Doctor of Dental Medicine D.M.D.
- Oral Biology M.S.
School of Nursing

Welcome to the School of Nursing at UNLV. Our nursing program is the oldest in southern Nevada and the only one in Nevada to offer a Ph.D. program. All of our graduate programs are web-based to allow for “anytime, anyplace” education, but may involve occasional visits to campus. In our Masters of Science program, there are currently three tracks, the Family Nurse Practitioner Track, the Pediatric Nurse Practitioner Track, and the Nurse Educator Track. We also offer post-masters certificates in these areas. Family Nurse Practitioners provide primary care for individuals across the lifespan and many provide care to the indigent and uninsured populations. Pediatric Nurse Practitioners provide primary care for infants, children, and adolescents. The Nurse Educator program prepares nursing students to teach nursing. This provides more qualified faculty so that all of the area nursing schools may increase their enrollment. The MS program is growing rapidly because of the great need for advanced practice nurses and nurse educators in Nevada.

We also offer a web-based Ph.D. program. This program is research-focused and will help meet the need for more highly qualified faculty in Nevada and the surrounding states. If you are considering a position as a nurse educator and researcher, this web-based program may meet your needs.

We are rapidly expanding our research activities and have a number of well-funded graduate assistant positions available for full time students. In this role, graduate students work closely with faculty on their research, teach undergraduate classes, or supervise students in the clinical setting. It is a wonderful opportunity to enhance your education. UNLV’s School of nursing received full re-accreditation through the year 2010 from the National League for Nursing Accreditation Commission (NLNAC), the longest established accrediting body of nursing education programs in the country. It is the maximum period awarded by the NLNAC.

I encourage you to read the catalog and explore our website at to find out more about all of these programs and to visit us when you are in the Las Vegas area.

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The master’s program has full accreditation by the National League for Nursing Accrediting Commission. The Master of Science in Nursing Graduate program is designed to provide students pursuing a career in nursing the opportunity to acquire the knowledge, skills and abilities requisite to the safe, effective and efficient practice of nursing. The M.S.N. program currently offers the opportunity to become a nurse practitioner (NP) or a nurse educator. The Ph.D. in Nursing Graduate program is designed to meet two purposes: to prepare leaders as nurse educators who will meet the needs of the profession and society and to develop scholarly researchers who will advance knowledge about nursing education.

R.N. to M.S.N. Pathway

Through a collaborative agreement with Nevada State College, registered nurses with an associate’s degree or diploma are eligible to apply to take UNLV SON graduate courses as a special student. These courses count toward completion of a BSN. This collaboration shortens the graduate pathway by 9 credits. Upon BSN completion, the student is eligible to apply for one of the pathways in the graduate program. Applicants must meet all current requirements of admission into one of the pathways in the graduate program. For more information, please contact Nevada State College School of Nursing.

Transfer of Credit

The Graduate College evaluates transcripts and determines the credits acceptable to the university. The Graduate Admissions Committee determines the credits that may be applied toward the satisfaction of degree requirements for the Master of Science in Nursing. A limited number of graduate courses taken prior to admission to UNLV may be used in an advanced degree program. The courses must: a. Be approved by the Graduate Admissions Committee. b. Have been taken at an accredited institution. c. Have been completed with a grade of B or higher; B- is not acceptable. d. Upon recommendation of the Graduate Dean, be posted on the student’s official UNLV transcript. e. Duplicate or excess credit is not counted toward a UNLV graduate degree.

The actual number of transfer credits accepted is determined when the Proposed Degree Program is filed after admission. No more than seven credits may be accepted. A six-year completion rule applies to all course work utilized in completion of the degree. The date of the first transfer class utilized to fulfill the degree requirements begins the allowed six calendar years. Graduates of Baccalaureate Programs from Foreign Countries Since schools of nursing in foreign countries do not have the opportunity to achieve accreditation by the National League for Nursing Accrediting Commission or the Commission on Collegiate Nursing Education, students graduating from those schools will be exempt from meeting that one criterion for admission. Students will only be accepted on a full admission status, rather than a nonadmitted or provisional status.

Post-Master’s Certificate

Individuals who already have a master’s degree in nursing and meet the admission qualifications may complete a Post-Master’s Certificate for an FNP, PNP or Nurse Educator. No degree will be awarded, but a certificate documenting completion of the course work will be provided and transcripts showing completion of the courses will be available.

Advisement
Academic faculty advisors are assigned to all entering students for program planning. At the time the student selects his/her examination committee, the committee chairperson becomes the student’s official advisor. Students must complete the Proposed Program of Study Form by the end of the second semester of full-time study or the semester after they have achieved 16-20 credits.

The master’s program has full accreditation by the Commission on Collegiate Nursing Education (CCNE) from 2008 until 2014. The Master of Science in Nursing Graduate program is designed to provide students pursuing a career in nursing the opportunity to acquire the knowledge, skills and abilities requisite to the safe, effective and efficient practice of nursing. The M.S.N. program currently offers the opportunity to become a nurse practitioner (NP) or a nurse educator. The Ph.D. in Nursing Graduate program is designed to achieve the following program outcomes:

- Provide leadership in the advancement of nursing as an academic and practice discipline and in political processes that affect nursing and health care.
- Conduct original research that generates new knowledge.
- Develop, implement and evaluate innovative approaches to teaching and learning.

Program Objectives

The goal of the DNP degree is to prepare nurses to assume leadership roles in clinical practice, clinical teaching, and health care analysis.

DNP Program Objectives. At the conclusion of the University of Nevada DNP program, graduates will:

1. Provide advanced nursing care to improve patient and population health care outcomes in various direct and indirect settings.
2. Take leadership roles in the analysis, delivery and management of nursing care and health care systems.
3. Provide evidence-based practice through the application of analytical methods, information systems technology, and clinical research.
4. Collaborate with interprofessional teams to meet the healthcare needs of culturally and ethnically diverse individuals and populations.
5. Act as change agent, leader, and advocate in the design, implementation, and evaluation...
of health care policy as it affects populations and the nursing profession.

Admission Requirements

Nurse Executive Track:

1. Hold a baccalaureate in nursing from an accredited NLNAC or CCNE nursing program.
2. Students must hold a master's degree in nursing (MSN or MN). Exceptions to this will be made on a case-by-case basis and only for those students who hold a Bachelor of Science in Nursing with a master's degree in another health-related field (e.g., MPH, MHA, etc.). Coursework from non-nursing master's degree must have significant content from nursing or a nursing focus. At a minimum, graduate level coursework must demonstrate a substantial study of Nursing Theory, Research, and Health Policy.
3. Have completed graduate-level course work with a grade of B or better in nursing theory, research and healthcare policy.
4. Have a cumulative grade point average (GPA) of 3.5 or higher at the graduate level.
5. Have completed graduate-level course work with a grade of B or better in pathophysiology, pharmacology, physical assessment, nursing theory, research, and healthcare policy.
6. Hold an unencumbered license as a registered nurse.
7. Hold national certification or eligibility for certification reflective of advanced practice in a leadership role from a nationally recognized certification/credentialing organization.

Advanced Practice Track:

1. Hold a baccalaureate in nursing from an accredited NLNAC or CCNE nursing program.
2. Hold a master's degree in nursing (MSN or MN). Exceptions to this will be made on a case-by-case basis and only for those students who hold a Bachelor of Science in Nursing with a master's degree in another health-related field (e.g., MPH, MHA, etc.). Coursework from non-nursing master's degree must have significant content from nursing or a nursing focus. At a minimum, graduate level coursework must demonstrate a substantial study of Nursing Theory, Research, and Health Policy.
3. Have completed graduate-level course work with a grade of B or better in advanced pathophysiology, pharmacology, physical assessment, nursing theory, research, and healthcare policy.
4. Have a cumulative grade point average (GPA) of 3.5 or higher at the graduate level.
5. Have completed graduate-level course work with a grade of B or better in nursing theory, research and healthcare policy.
6. Hold an unencumbered license as a registered nurse and as an advanced practice nurse commensurate with state licensure.
7. Hold national certification in an advanced practice role from a nationally recognized certification/credentialing organization.

Degree Requirements

A minimum of 39 graduate credit hours is required for both the advanced practice and nurse executive options. Students must complete the 39 credits of the degree program with a GPA of 3.0 or higher. All courses must be completed with a grade of B or better. B- is considered failing. Only two courses may be repeated and they must be passed by a grade of B or higher.

Students in the Advanced Practice Option must complete the following coursework:

Advanced Practice Option: 39 Credits

NURS 719R - Health & Public Policy for Advanced Practice of Nursing
NURS 725 - Scientific Underpinnings of the DNP in Advanced Practice Nursing
NURS 728R - Analysis of Health Organizations
NURS 729R - Translational Evidence for Healthcare Systems
NURS 732 - Economics of Healthcare Delivery
NURS 745 - Healthcare Information Systems & Technology
NURS 765 - Executive/Advanced Practice DNP Residency
NURS 767 - Collaboration, Communication & Negotiation for the Nurse Leader
NURS 768 - DNP Forum & Role Transformation
NURS 772 - The Nurse as Leader
NURS 778 - Geographic Information Systems for Health
NURS 786 - DNP Project: Planning for Change
NURS 787 - DNP Project: Implementing & Evaluating Change
NURS 788 - DNP Project: Project Defense
NURS 792 - Outcomes Management & Performance Improvement in Nursing

Students in the Nurse Executive Option must complete the following coursework:

Nurse Executive Option: 39 Credits
NURS 719R - Health & Public Policy for Advanced Practice of Nursing
NURS 725 - Scientific Underpinnings of the DNP in Advanced Practice Nursing
NURS 728R - Analysis of Health Organizations
NURS 729R - Translational Evidence for Healthcare Systems
NURS 732 - Economics of Healthcare Delivery

NURS 745 - Healthcare Information Systems & Technology
NURS 763 - Management Strategies for Nursing & Healthcare Systems
NURS 765 - Executive/Advanced Practice DNP Residency
NURS 767 - Collaboration, Communication & Negotiation for the Nurse Leader
NURS 768 - DNP Forum & Role Transformation
NURS 772 - The Nurse as Leader
NURS 786 - DNP Project: Planning for Change
NURS 788 - DNP Project: Project Defense
NURS 792 - Outcomes Management & Performance Improvement in Nursing

Each student, upon admission, will be assigned an advisor. The advisor (and later the Advisory Committee including the chair of the Advisory Committee if in place) will plan the student's entire degree program of study and submit it to the Graduate College by the end of the second semester of enrollment. The degree program requires the approvals of the student, advisor, and the DNP Coordinator, the appropriate academic dean, and the Graduate Dean.

Progression and Policies

The Advisor monitors the student’s progress through the program of study. In addition, the DNP Coordinator will monitor the student’s progress, including adherence to all established policies of the Graduate College. At any given time, the student can request a change of advisor or chair of Advisory Committee. However, it is the student’s responsibility to secure approval of an individual faculty member who agrees to serve as his or her advisor before changing the original advisor. Subject
to Graduate College approval. Also, it is the student’s responsibility to make sure that his or her chosen advisor or chair has current full graduate faculty status at UNLV, which can be checked at: http://graduatecollege.unlv.edu/facstaff/status.html.

Progression in the program is based on the UNLV School of Nursing Policy.

To progress in the UNDNP program at UNLV, students must*:

1. Maintain a cumulative grade point average of 3.00 or above each semester enrolled.
2. Receive a grade of “B” (3.00) or above in all required cognate and nursing courses. If less than a “B”, for example a B- (2.7) is earned, the course must be repeated. The student must be in good standing to repeat a course and any required course may be repeated only time.
3. A student may register for a course only two times. A student who has registered for the same course twice and has withdrawn or received a grade less than “B” is ineligible for readmission unless approved by the Graduate College.
4. If a student fails two courses or has withdrawn from two courses or received a grade less than “B” in two courses he/she is ineligible for readmission unless approved by the Graduate College.
5. Complete a minimum of six (6) semester hours in each calendar year.
6. Continuously register for three (3) semester hours of credit each semester while working on the thesis, capstone, professional paper, or research utilization project. (DNP students complete a capstone project unique to the program.)

* Students in the UNDNP program are required to abide by the policies for UNLV School of Nursing and UNR Orvis School of Nursing. Students in the UNDNP program are also required to abide by the policies of the UNLV Graduate College and University as well as the UNR Orvis School of Nursing and UNR Graduate College.

Capstone Project

The capstone project is a culmination project based on guidelines from the American Association of Colleges of Nursing (AACN) DNP essentials. This is a project completed over semesters 2, 4 and 5 in the program. Students must complete each semester of the capstone project to progress in the program. Each student will create, present and defend a capstone proposal in the 2nd semester. This must be successfully completed in the semester to progress. Students will complete a project, write a final paper and defend the project in the 5th semester with full committee approval obtained for graduation from the UNDNP program according to the individual ‘home’ school Graduate College (UNLV and UNR) requirements.

Progression in the capstone experience from each course (NURS 786 to NURS 787 to NURS 788) must be completed in order. For students who do not progress in the stated progression, the UNDNP Capstone Progression Policy will be followed. Please refer to the UNLV DNP Online Program page on WebCampus or the UNLV DNP Coordinator for a copy of the policy.

Students will select a chair for their capstone committee in the first semester and be required to file the Committee Appointment Form with the DNP coordinator when this is completed. This advisory committee must be formed before students can start on the capstone proposal. The graduate school representative is a university-at-large member given the role of representing the graduate school, assuring compliance with graduate school regulations and procedures and reporting any deviation from prescribed standards to the graduate college. All members of the committee must have graduate faculty status or approval of the Dean of the Graduate School. More specific information about the capstone project will be discussed in the courses it is embedded in the program.

Courses and Course load requirement
Students are enrolled in the UNDNP program as a ‘cohort’. The program is a 5-semester prescribed program and students are expected to matriculate along with the cohort starting from the 1st semester until completion.

In instances where students are not with their cohort for extenuating circumstances, they will need to continue to take a minimum of 3 credits per semester for both fall and spring semesters to maintain their place in the program until graduation.

Leave of absence may be requested by students. This is done through the Graduate College by filling out the form Application for Leave of Absence. This leave request must be approved the DNP Coordinator/Department chair, advisor, and dean of the school before being forwarded to the Graduate College for final approval. It is the student’s responsibility to make sure this form has been signed by all individuals and approved before taking the leave of absence. Please look at the Graduate College website for policies and procedures related to this request and some of the issues students should be aware of before taking leave. http://catalog.unlv.edu/content.php?catoid=3&navoid=119#Leave_of_Absence

Forms Required for the UNDNP Program at UNLV

Students will have a series of forms required by the graduate college as they progress through the program. The timeline from admission to graduate chart in this handbook outlines each step in the process. Please refer to the graduate college website: http://graduatecollege.unlv.edu/forms/ to download these forms.

The complete list of forms includes:

- Degree Plan Requirements form:
  - Two part form: Part A: outlines student's proposed degree plan. Part B: is optional and is only for students transferring credits in from other programs or universities. Transfer credits should be submitted early in the process to ensure confirmation that the credits are transferable and applicable to the student's degree program.

- Proposed degree program forms:
  - There are two documents: Part I and Part II. Part I is the attached form to be filled out. Part II is the contract or time line sheet (you and your advisor should have this already, which is a listing and sequence of your courses) (please see handbook for further information). These two parts need to be submitted at the same time. Follow the instructions on the form.

- Committee Appointment form:
  - This form needs to be filled out when capstone chair and committee members are appointed. This will be submitted at the end of the 1st semester or beginning of the 2nd semester before students start the capstone proposal in the 2nd semester.

- Prospectus Approval form:
  - This form needs to be filled out when the student’s capstone prospectus is approved and before students can continue on to work on their capstone project.

- Advancement to Candidacy:
  - This form needs to be filled out after the student passed the capstone proposal and the capstone prospectus has been approved. This form and the prospectus approval form are filed at the same time with the graduate college for the UNDNP program students at UNLV.

- Final Defense form:
  - This form needs to be filled when oral defense of the capstone is completed.

- Cover sheet for Capstone:
This form needs to be filled out when the final project is complete and approved.

Nursing M.S.N.

The M.S.N. program currently offers two tracks: the Family Nurse Practitioner (NP) Track and the Nurse Educator (NE) Track. The role of the nurse practitioner (NP) is that of direct care provider. NPs practice in clinics, long-term care facilities, hospitals, physician offices, managed care corporations and private industries. NPs perform health histories and physical examinations, order and interpret diagnostic tests, diagnose and manage acute and chronic diseases, prescribe medication and treatments, provide patient and family counseling and education regarding lifestyle behaviors and self-care skills and participate in research projects and integrate research findings. The NP blends some aspects of medicine with nursing, using a nursing perspective. When required by state law, as it is in Nevada, NPs have collaborative relationships with physicians. Credentialing examinations, designed by specialty area, are available and required prior to practice in most states. The nurse practitioner track offers courses with the option for full-time and part-time study.

The nurse educator track prepares the graduate for a faculty position within a program of nursing or a nurse educator position in a clinical setting. The student will increase mastery related to teaching and learning and evaluation strategies, curriculum design, and the use of educational technologies. Via directed study and mentorship with experienced faculty, students will enhance clinical expertise in a selected specialty area. Graduate students will have the opportunity to supervise basic nursing students in clinical practice areas and/or work with nurse educators in clinical settings in the preparation, delivery and evaluation of educational programs for nurses. The nurse educator track is a year round program featuring full time and part time options for program completion.

Program Outcomes of the Master of Science Degree

Upon completion of the program the graduate will complete the following core outcomes:

1. Evaluate the principles, personal values, and beliefs that influence ethical decision making, which provides a framework for nursing practice.
2. Communicate effectively as a health care professional, creating collaborative interdependent relationships and act as advocates for the nursing profession and client population.
3. Incorporate nursing theory and evidence based practice in advanced nursing roles.
4. Understand the influences of human diversity and social issues in providing culturally sensitive health promotion and disease prevention strategies in a global society.
5. Assume a leadership role in the management of human, fiscal and physical health care resources to improve nursing practice and health care delivery.

Program Outcomes: Nurse Practitioner Track

1. Competently assess, diagnose, prescribe, evaluate and create a holistic plan of treatment.
2. Articulate the professional role, which includes the ethical code of conduct and scope of advanced practice.
3. Develop and monitor comprehensive, holistic plans of care that address the health promotion and disease prevention needs of diverse client populations.
4. Assess and monitor teaching/learning needs in a diverse client population. Practice ethically in the conduct of research, management and clinical professional practice.
Program Outcomes: Nurse Educator Track

1. Utilize education research to continually improve teaching strategies/skills.
2. Develop a teaching-learning style that facilitates learner development that meets the educational outcomes of the learner.
3. Assess and evaluate at both the course and program level
4. Function as a leader and change agent in nursing education settings.
5. Participate in scholarship to further knowledge and abilities in nursing education.

Admission Requirements

Students are admitted to the program in the fall semester of each year based upon competitive selection. Students may enroll in selected (NURS 705, 706, and 713) classes as a non-degree student, but no more than seven credits of course work as a non-degree student will be accepted toward the degree.

Students make simultaneous application to the Graduate College and the School of Nursing.

1. Cumulative Grade Point Average (GPA) of 3.00 or a GPA of 3.00 in the last two years of undergraduate work. (Submit one copy of official transcripts from all previous college and professional schools to the Graduate College and one copy to the School of Nursing). The undergraduate nursing course work must have been completed at a nursing program accredited by the National League for Nursing Accrediting Commission or Commission on Collegiate Nursing Education.
2. Completion of undergraduate courses in nursing research, physical assessment (as currently taught in the undergraduate program of nursing at UNLV), and a course in introductory statistics. All prerequisite courses must be completed with a grade of C (2.00) or better. It is expected that students possess basic computer word processing skills. If not, the student should seek that content prior to enrollment.
3. Completion of a graduate level statistics course with a grade of “B” or better within five years prior to matriculation into the MSN program. (Example EPY 721 or KIN 751.)
4. Two letters of recommendation from former instructors or employers that speak to the applicant’s potential to complete the graduate program must be submitted to the school. The evaluators should speak to the student’s professional nursing competency, including application of theory, quality of patient care, independent judgment when appropriate; relationship with team members such as nurses, physicians, and others; leadership skills; and personal responsibility and accountability.
5. A current résumé or curriculum vita.
6. Current valid RN license in state of residence. Students should submit a copy of their Nursing License with the word “copy” printed over the top.
7. Accepted applicants must, prior to enrollment, show evidence of current health and malpractice insurance, proof of completion of the Hepatitis B Vaccine series, or a titer indicating presumptive immunity, proof of varicella or a titer indicating presumptive immunity, or a statement from a health care provider indicating that vaccination is contraindicated for health reasons and validation of a negative drug screen and background check. Other immunization and health data requirements are identified in the student handbook.
8. A statement of approximately 300 words describing the student’s professional goals and reason for seeking graduate education.
9. Students seeking admission to the FNP track must submit a resume or vita that demonstrates a minimum of one year clinical experience as a registered nurse.
10. Students seeking admission into the Nursing Education Pathway are required to have
completed one year of clinical practice prior to enrollment in the first nursing education practicum course (NURS 733).

11. Selection into one of the approved pathways is based upon the applicant’s qualifications (academic and professional), applicant’s strengths as compared to other applicants, and upon the number of available openings.

Progression:

To progress in the M.S.N. program students must:

1. Maintain a cumulative grade point average of 3.00 or above each semester enrolled.
2. Receive a grade of B (3.00) or above in all required cognate and nursing courses. If less than a B, for example a B- (2.70), is earned, the course must be repeated. The student must be in good standing to repeat a course and any required course may be repeated only one time.
3. A student may register for a course only two times. A student who has registered for the same course twice and has withdrawn or received a grade less than B is ineligible for readmission unless approved by the UNLV Graduate College.
4. If a student fails two courses or has withdrawn from two courses or received a grad less than B in two courses he/she is ineligible for readmission unless approved by the Graduate College.
5. Complete a minimum of six semester hours in each calendar year.
6. Continuously register for a minimum of three (3) semester hours of credit each semester while working on the thesis, capstone, professional paper, or research utilization project.
7. In order to maintain clinical competency the FNP student must continuously register for at least three (3) semester hours of NURS 773 (clinical practicum) each semester while working on the thesis or capstone project if all required clinical courses are completed.

Graduation Requirements

1. Residency Credits No more than three courses (maximum 7 credits) may be transferred into the program. The MSN Coordinator and the Graduate College must approve transfer credit.
2. Credit by Challenge Examination: Graduate courses with a 700 number or above may not be challenged for credit.
3. Six-Year Completion Rule All degree requirements must be completed within six calendar years from the date of matriculation. No credit may be used in an advanced degree program for course work completed more than six calendar years immediately preceding the term in which all degree requirements are completed.
4. Graduation Requirements: Students have a choice of the catalog under which they wish to graduate. They may choose between: 1) the year of official matriculation, or 2) the year of graduation. Students are encouraged to meet the requirements of the current catalog.
5. Comprehensive Examination: Students in all tracks will be formally evaluated by an Examination Committee for their thesis, utilization project, professional paper or capstone project. (More detailed information is provided in the MSN Handbook.)

Part-Time Study

Students may complete the Nursing Education track on a part-time basis. Nurse Practitioner students may complete courses prior to the clinical sequence of the NP tracks on a part-time basis, but must be cognizant of the six-year completion rule. Students entering the clinical sequence of the NP tracks must enroll as full-time students. Due to the heavy clinical commitment in the NP tracks, it is recommended that students work no more than two shifts per week.
Course Requirements for Students in the Family Nurse Practitioner Track –

Total Credits: 48

- NURS 703 Credits 3
- NURS 704 Credits 3
- NURS 705 Credits 1
- NURS 706 Credits 3
- NURS 707 Credits 3
- NURS 713 Credits 3
- NURS 714 Credits 3
- NURS 730 Credits 3
- NURS 749 Credits 7
- NURS 759 Credits 8
- NURS 769 Credits 8
- NURS 759 Credits 2
- NURS 796 Credits 1
- NURS 799 Credits 3

Course Requirements for Students in the Nursing Education Track –

Total Credits: 39

- NURS 706 Credits 3
- NURS 709 Credits 3
- NURS 710 Credits 3
- NURS 755 Credits 2
- NURS 707 Credits 3
- NURS 724 Credits 3
- NURS 742 Credits 2
- NURS 723 Credits 4
- NURS 733 Credits 4
- NURS 713 Credits 3
- NURS 743 Credits 4
- NURS 799 Credits 3
- NURS 795 Credits 3
- NURS 793 Credits 3

Nursing Ph.D.

Individuals who complete the PhD in Nursing Program will be prepared for roles as leader, scholar/researcher, and educator in academia, the health care industry, or government and private organizations focused on health care. Graduates will demonstrate the following program outcomes:

- Provide leadership in the advancement of nursing as a scientific and practice discipline through the conduct of culturally competent scholarship and identification of implications for policy, the discipline, and the profession.
- Conduct and communicate original research that generates new knowledge.
- Develop, implement and evaluate innovative approaches to teaching and learning.

Program Entrance Requirements

Admission into the nursing doctoral program is contingent upon the qualifications of the applicant and the availability of positions. Students are admitted once a year in the fall. Applicants must have submitted all required materials by February 1.

Admission Requirements

1. Earned master’s degrees in nursing (MSN) from programs accredited by the National League for Nursing Accrediting Commission or the Commission on Collegiate Nursing Education; persons educated outside the United States need to demonstrate proof of equivalent education and advanced degrees.
2. Persons holding a bachelor’s degree in nursing and master’s degree in a health-related discipline from an accredited institution are eligible for admission but will need to successfully complete NURS 705 or NURS 755, 706, 707, and 713 from the MSN program prior to taking doctoral courses.
3. A minimal grade point average of 3.5 (4.0 = A) earned in a nursing or health-related master’s program of study.
4. Successful completion of graduate course work in statistics and research.
5. Licensed as a Registered Nurse in at least one state or territory of the US.
6. Applicants must present competitive GRE scores on verbal, quantitative and analytic measures. The exam must have been taken within the last five years.

7. Three letters of recommendation are required from individuals who can evaluate the applicant’s motivation, academic capability, scholarship potential, and personal integrity for doctoral study in nursing.

8. Evidence of current health and malpractice insurance. Accepted applicants must, prior to enrollment, show proof of completion of the Hepatitis B vaccine series, a titer indicating presumptive immunity, or a statement from a health care provider indicating that vaccination is contraindicated for health reasons and validation of a negative drug screen. Other immunization and health data requirements are identified in the student handbook.

9. Applicants must submit the following written materials for review: a. Two representative samples of scholarly work (e.g., thesis, demonstration project, publications, etc.). b. Written statement of personal career, educational and scholarship goals including identification of research interests. The applicant’s research interests must be within the realm of our faculty expertise in order to pursue a doctoral degree in this program. c. Curriculum Vita or resume.

10. Applicants are required to participate in an interview with members of the Admissions Committee, either in person or by telephone.

Course Offerings

Doctoral courses offered by the School of Nursing are web-based. However, students are required to be on campus three days at the beginning of each fall semester. These meeting times and dates are set in advance to allow students adequate time to plan their schedules and most likely occur on Friday and/or Saturday.

Programs of Study

There are two options in the current PhD in Nursing Program: “Nursing Education” Option and “Urban Sustainability: "Health” Option. The UNLV SON PhD in Nursing Curriculum Framework outlines the shared required core courses in the PhD in Nursing Program as well as the selected Option required courses.

A minimum of 65 graduate credit hours is required. Students enrolled in the “Nursing Education” Option who have completed appropriate nursing education courses prior to admission will complete a reduced number of credits for a total of no less than 53 graduate credit hours. Students can enroll for either part-time or full-time study.

Degree Requirements

All students will complete the following program of study in terms of major focal areas of the curriculum.

Doctoral Core - Total Credits: 44

- NURS 709 - Teaching and Learning in Nursing
- NURS 770 - Knowledge Development in Nursing
- NURS 771 - Theory Development in Nursing
- NURS 772 - The Nurse as Leader
- NURS 775 - Statistical Methods for Nursing Research I: Univariate Methods
- NURS 776 - Statistical Methods for Nursing Research II: Multivariate Methods
- NURS 779 - Writing a Research Grant Application
- NURS 780 - Research Methods in Nursing
- NURS 781 - Qualitative Data Analysis Processes
- NURS 785 - Special Topics in Nursing Research
- NURS 789 - Independent Study
- NURS 797 - Dissertation

Nursing Education Option - Total Credits: 21
• NURS 710 - Evaluation Strategies For Nurse Educators
• NURS 724 - Developing Curriculum for Nursing Education
• NURS 733 - Nursing Practicum I
• NURS 774 - Educational Theory and Philosophy for Nursing
• NURS 790 - Independent Teaching Practicum Seminar
• NURS 791 - Independent Teaching Practicum

Urban Sustainability: Health Option- Total Credits: 21

• NURS 778 - Geographic Information Systems for Health
• NURS 782 - Sustainability of Urban Health: Clinical Perspectives
• NURS 783 - Economics of Sustaining Urban Health
• NURS 784 - Health and Public Policy for Urban Sustainability
• NURS 777 - Individualized Study/Dissertation Seminar

Credit Hours and Grade Point Average

A minimum of 65 graduate credit hours is required (students who have completed courses 709, 710, 724, and 733 or equivalent course work in either their masters’ or postmasters’ education are required to complete a minimum of 53 credits of required course work). A grade point average of 3.0 must be maintained in all courses required for the degree; no grade less than B is acceptable for curricular completion of the program. Each student, upon admission, will be assigned an initial academic advisor who will plan the student’s entire program of study for submission to the Ph.D. Coordinator for approval. Approved courses will include those taught in other disciplines and must relate to the student’s area of research.

Progression and Policies

Initial advisors monitor the student’s progress through the program of study. In addition, the Ph.D. Coordinator will monitor the student’s progress, including adherence to all established policies of the Graduate College. After the student has selected a research topic, the student will select an advisor based on research focus and needs. Upon student recommendation, faculty acceptance, and approval from both the Ph.D. Coordinator and the Graduate College, the advisor will be changed.

Comprehensive Examination

Upon completion of all required course work other than dissertation and research seminar, each student must take a written Comprehensive Examination that will assess a doctoral student’s readiness to begin the doctoral dissertation. Specifically, the examination will evaluate a student’s written and oral articulation of a possible dissertation research focus or problem. Upon completion of these requirements, the student achieves candidacy and can register for dissertation credits and begin dissertation proposal development followed by independent dissertation study.

Dissertation Proposal and Prospectus

Upon successfully completing the comprehensive examination and proposal defense, the student submits a dissertation prospectus to his/her committee for approval. After approval, the student submits a “Prospectus Approval Form” to the Graduate College. The student’s major advisor and dissertation committee are responsible for the student’s progression through the dissertation.

Final Oral Examination

Upon completion of the dissertation, the student must pass a final oral examination which involves the successful defense of the dissertation study. All dissertation committee members must be present for
Pediatric Nurse Practitioner Certificate

The role of the Nurse Practitioner is that of direct care provider. Nurse practitioners may be educated in a variety of specialties, but the programs offered at UNLV are those of Family Nurse Practitioner and the Pediatric Nurse Practitioner. Currently the Geriatric Nurse Practitioner pathway is not offered. However, a post-master’s certificate will potentially be offered in fall, 2006 if there are a sufficient number of qualified applicants.

NP’s practice in clinics, long term care facilities, hospitals, physician offices, managed care corporations, and private industries. Practitioners perform health histories and physical examinations, order and interpret diagnostic tests, diagnose and manage acute and chronic diseases, prescribe medication and treatments, provide patient and family counseling and education regarding lifestyle behaviors and self-care skills, and participate in research projects as well as integrate research findings into practice.

The NP blends some aspects of medicine with Nursing, using a Nursing perspective. When required by state law, as it is in Nevada, NP’s have collaborative relationships with physicians. Credentialing examinations, designed by specialty areas, are available and required prior to practice in most states.

A. Core courses completed by ALL practitioner students

- NURS 704 - Pathophysiology for Advanced Nursing Practice
- NURS 705 - Roles in Advanced Practice Nursing
- NURS 706 - Nursing Theory and the Research Process
- NURS 707 - Nursing Research Methods and Utilization
- NURS 713 - Health and Public Policy
- NURS 730 - Pharmacology in Primary Care
- NURS 752 - Role of the Nurse Practitioner
- NURS 766 - Capstone Seminar I
- NURS 796 - Capstone Seminar II

B. Clinical Pathway

- NURS 714 - Family Theory and Assessment in Primary Care:
- NURS 731 - Advanced Pediatric Health Assessment
- NURS 734 - Primary Care in Pediatrics: The Well Child and Adolescent
- NURS 744 - Primary Care in Pediatrics: Common Problems
- NURS 764 - Primary Care in Pediatrics: Chronic Conditions

Post-Masters Family Nurse Practitioner Certificate

Individuals who already have a master’s degree in nursing, and meet the admission qualifications will be allowed to take courses as a non-degree student. No degree will be awarded, but a certificate documenting completion of the course work will be provided and transcripts showing completion of the courses will be available. Each individual applicant will be evaluated to determine the courses required in order to complete the specific certificate program. Additional courses beyond the minimum courses needed for the certificate program may be required if the applicant’s earned MS in nursing lack courses required by the UNLV School of Nursing.

Certificate Requirements: 36 Credits

- NURS 703 - Advanced Physical Assessment
Post-Masters Nursing Education Certificate

Individuals who already hold a master’s degree in nursing and meet the admission qualifications, may take courses leading to the Nursing Education Post-Masters Certificate. Admitted students take courses as a non degree student and are awarded a certificate documenting completion of the required course work. The Nursing Education Post-Masters Certificate prepares individuals for teaching positions within a program of nursing or a nurse educator position in a clinical setting. Additional courses beyond the minimum courses needed for the certificate program may be required if the applicants earned M.S. in Nursing lack courses required by the UNLV School of Nursing.

Certificate Requirements: 12 Credits

- NURS 709 - Teaching and Learning in Nursing
- NURS 710 - Evaluation Strategies For Nurse Educators
- NURS 724 - Developing Curriculum for Nursing Education
- NURS 733 - Nursing Practicum I

NURS 622
AIDS: An Interdisciplinary Perspective
This course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

NURS 654
Introduction to Forensic Nursing
This course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

NURS 675
Nursing Systems Management
This course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

NURS 676
Introduction to Nursing Case Management
This course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

NURS 677
Nursing Case Management Systems
This course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

NURS 703
Credits 3
Advanced Physical Assessment
Focuses on expanding the skills necessary to do a comprehensive physical assessment. Emphasis on developing advanced techniques in history taking and physical examination to prepare the student for clinical course as a nurse practitioner. Correlation of assessment findings with pathophysiological processes to develop differential diagnosis is presented.

Prerequisites Admission to Graduate Program or consent of instructor.
NURS 704  Credits 3
Pathophysiology for Advanced Nursing Practice
Emphasis on physiologic mechanisms of disease from a cellular perspective. Cellular pathophysiology of disease as it translates into clinical signs and symptoms manifested by the patient. Physiology of growth and development and the physiology of aging as they contrast with pathophysiologic mechanisms of disease. Prerequisites Admission into the graduate program in nursing or consent of instructor.

NURS 705  Credits 1
Roles in Advanced Practice Nursing
Introduces specialty areas within advanced practice nursing. Differentiates between characteristics of each specialty area. Prerequisites Consent of Graduate Program Advisor.

NURS 706  Credits 3
Nursing Theory and the Research Process
Examines nursing theories/models and their role in practice, research and education. Emphasizes the structure, building and testing of nursing knowledge. Discussion of the research process. Prerequisites Graduate standing.

NURS 707  Credits 3
Nursing Research Methods and Utilization
Examines qualitative and quantitative nursing research methods, research utilization and skills for critical evaluation of nursing research. Evaluation of research findings for evidence-based practice or thesis approach to scholarly inquiry also emphasized. Prerequisites NURS 706

NURS 709  Credits 3
Teaching and Learning in Nursing
Explores traditional and alternative teaching and learning concepts, skills, and strategies. Emphasis is on competencies of an educator. Prerequisites Admission to the Graduate Nursing Program or Certificate Program for Nurse Educators.

NURS 710  Credits 3
Evaluation Strategies For Nurse Educators
Develops formative/process and summative/outcome evaluations for patients, students, peers and programs using both traditional and alternative evaluation strategies. Experience in evaluating outcomes and processes of education within the context of nursing specialty area. Prerequisites Admission to the Graduate Nursing Program or Certificate Program for Nurse Educators.

NURS 713  Credits 3
Health and Public Policy
Examines selected health problems from a political, cultural, social, educational, environmental, economic and ethical perspective. Analysis of research and public policy relevant to the prevention, treatment and amelioration of the problems. Initiate change strategies to impact public policy related to the selected problems. Prerequisites Consent of Graduate Program Advisor.

NURS 714  Credits 3
Family Theory and Assessment in Primary Care:
Study of advanced and emerging theory in family nursing science, determinants of family health, and research in family systems in the context of society and culture. Emphasis on family as client. Applies theory to phenomena in family and child health. Prerequisites Graduate standing.
NURS 719R  Credits 3  
**Health & Public Policy for Advanced Practice of Nursing**
Prepares nursing leaders to analyze and influence health policy. Defines problems, critiques potential solutions, assesses political influences, designs interventions for policy-making, and evaluates outcomes. 
**Prerequisites** Completion of the first 2 terms in the DNP program or permission of instructor.

NURS 720  Credits 3  
**Functionality of the GNP Role**
Focuses on roles of GNP as expert practitioner, educator, consultant, clinical researcher and systems manager in primary, secondary and tertiary practice settings. Uses bio-psycho-social, spiritual, cultural perspectives and epidemiology data to examine communication, developmental and intergenerational issues in the care of older adults. 
**Notes** (3 hours/week practicum). 
**Prerequisites** NURS 705 and acceptance into the Gerontological Nurse Practitioner pathway.

NURS 722  Credits 3  
**Integrative Health Care**
Exploration of healing and wholeness as a philosophy for advanced nursing practice. Examination and evaluation of healing modalities that can be utilized for health promotion and treatment of common health problems. 
**Prerequisites** NURS 705, NURS 706

NURS 723  Credits 4  
**Specialty Focus for Nurse Educators**
Advanced knowledge in nursing specialty area of choice. Under the direction of a nursing faculty mentor, examines interrelationships between theory, practice, and research within specialty area. Includes independent study lab and seminar.

Prerequisites Admission to the Graduate Nursing Program or Certificate Program for Nursing Educators.

NURS 724  Credits 3  
**Developing Curriculum for Nursing Education**
Develop curriculum for educational programs in schools of nursing and clinical agencies. Clinical specialty area and intended practice setting serve as context for course assignments. 
**Prerequisites** Admission to the Graduate Nursing Program or Certificate Program for Nursing Educators.

NURS 725  Credits 2  
**Scientific Underpinnings of the DNP in Advanced Practice Nursing**
Articulates and supports a role for the nursing doctorate to prepare nurse leaders within the discipline of nursing. 
**Prerequisites** Admission to the DNP Program.

NURS 727  Credits 3  
**Nursing Management: Organizational Level**
Analysis of theories and goals of nursing management, the processes and resources utilized for goal achievement, and the various systems which impact nursing care delivery. 
**Prerequisites** NURS 706, NURS 707, and NURS 713

NURS 728R  Credits 2  
**Analysis of Health Organizations**
An introduction to the analysis of the health/human service organization as a particular type of complex organization. 
**Prerequisites** Admission to the DNP Program or permission of instructor.

NURS 729R  Credits 3
Translational Evidence for Healthcare Systems

Critical analysis and synthesis of the literature and available data to determine and implement evidence-based science into healthcare practice. Prerequisites Admission to the DNP Program.

NURS 730 Credits 3
Pharmacology in Primary Care
Focuses on the clinical application of pharmacologic and pharmacy kinetics principles in the management of selected health problems of adults and children. Focuses on drugs commonly used for adults and children in primary care settings. Prerequisites NURS 704

NURS 731 Credits 3
Advanced Pediatric Health Assessment
Focuses on advanced concepts in the physical, social, cognitive and developmental assessment of infants, children, and adolescents. Physical assessment specific to each age group will be studied. Students will also explore several selected developmental screening tools. Notes Three hours/week of precepted clinical/lab. Prerequisites Graduate standing in PNP track.

NURS 732 Credits 3
Economics of Healthcare Delivery
Addresses basic concepts and techniques for financial management as it relates to clinical practice, clinical teaching, and research in healthcare programs and organizations. Prerequisites Completion of the first term courses in the DNP program or permission of the instructor.

NURS 733 Credits 4
Nursing Practicum I
Applies strategies and concepts of the nurse educator role in a practice setting of choice and within the context of clinical specialty area. Prerequisites NURS 709, NURS 710, and NURS 723.

NURS 734 Credits 6
Primary Care in Pediatrics: The Well Child and Adolescent
Primary care of children and adolescents, specifically, advanced nursing assessment and interventions designed to promote the wellness of children aged 0 through adolescents are emphasized. Includes screening anticipatory guidance and health promotion strategies. Notes Twelve hours of precepted practicum per week. Prerequisites NURS 704 and NURS 731.

NURS 740 Credits 6
The GNP Role in Wellness Management: Primary Prevention
Theoretical and clinical basis of primary prevention for older adults. Focuses on concepts of health promotion, maintenance, screening, teaching, advocacy and financing. Exploration of essential nutrition needs, lifestyle and living patterns of non-institutionalized older adults. Clinical management includes algorithm, protocols and health maintenance flow sheets Notes (12 hours/week practicum) Prerequisites NURS 703, NURS 704, NURS 720, and NURS 730.

NURS 742 Credits 2
Advanced Nursing Informatics
Analyze the use of computer and information science and systems to manage and process data, information and knowledge in nursing education. Notes Nursing specialty serves as the context for course assignments. Prerequisites Admission to the Graduate
Nursing Program or Certificate Program for Nurse Educators.

**NURS 743**  
**Credits 4**  
**Nursing Education Practicum 2**  
Second practicum to apply and evaluate strategies and concepts of the nurse educator role in a practice setting of choice and within the context of clinical specialty area.  
**Prerequisites** NURS 709, NURS 710, NURS 723 and NURS 733.

**NURS 744**  
**Credits 7**  
**Primary Care in Pediatrics: Common Problems**  
Research-based assessment, diagnosis, management and evaluation of common acute health problems affecting children from infancy through adolescence.  
**Notes** Nine hours per week of precepted practicum.  
**Prerequisites** NURS 731 and NURS 734.

**NURS 745**  
**Credits 3**  
**Healthcare Information Systems & Technology**  
Leadership models for nurse educator, advanced practice, or management roles. Mentorship, service, knowledge dissemination and impact of diversity on ethical leadership practices are included.  
**Prerequisites** Completion of the second term of the DNP Program or permission of the instructor.

**NURS 749**  
**Credits 7**  
**Primary Care of the Family I**  
Theoretical and clinical bases of primary and secondary prevention for families across the lifespan. Focuses is on health maintenance, teaching, screening, and clinical management of common acute health problems. Emphasis on wellness management, differential diagnoses, and pharmacologic/non-pharmacologic treatment options.  
**Notes** (15 hours/week clinical).  
**Prerequisites** NURS 703, Basic Life Support Certification and current malpractice insurance.

**NURS 750**  
**Credits 6**  
**The GNP Role in Acute Illness**  
Management: Secondary Prevention  
Theoretical and clinical basis of secondary prevention (acute care) for older adults. Focuses on clinical management of common acute health problems encountered in an inpatient or outpatient setting, stressing differential diagnosis and pharmacologic/non-pharmacologic treatment options.  
**Prerequisites** NURS 740

**NURS 752**  
**Credits 2**  
**Role of the Nurse Practitioner**  
Assists the student in transitioning into the role of the practicing nurse practitioner. Focuses on ethical decision making, legal issues, various practice plans, billing, credentialing and legal certification requirements for practice.  
**Prerequisites** Concurrent enrollment in NURS 769.

**NURS 755**  
**Credits 2**  
**Nursing Educator Role Development**  
Explores the role of the nurse educator including development in the areas of teaching, research, and service. Examines interpersonal dynamics and team-work in academic and practice settings, functioning within institutional expectations, developing a teaching portfolio, legal issues, and future directions in nursing education.

**NURS 757**  
**Credits 3**  
**Field Study in Nursing Management**  
Application and testing of existing theories and processes of management in the delivery of nursing services. Projects carried out under the guidance of a nursing faculty
member, in collaboration with a preceptor in a clinical agency. **Prerequisites** NURS 727

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<td>NURS 759</td>
<td>8</td>
<td>Primary Care of the Family II</td>
<td>Theoretical and clinical basis for secondary and tertiary prevention interventions across the lifespan. Focuses on clinical management of common acute health problems. Students examine the individual, familial and societal impact of chronic and terminal illness. Emphasis on differential diagnosis, clinical management and identification/utilization of community resources. <strong>Notes</strong> (15 hours of clinical per week). <strong>Prerequisites</strong> Successful completion of NURS 749/ NURS 749L</td>
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<td>NURS 760</td>
<td>8</td>
<td>The GNP Role in Chronic Illness</td>
<td>Management: Primary, Secondary and Tertiary Prevention. Focuses on chronic illness management of the older adult in primary, secondary and/or tertiary settings. Seminar presentations include research and practice protocols. Practicum involves increased independence under supervision of on-site preceptors and clinical instructor. <strong>Notes</strong> (15 hours/week practicum). <strong>Prerequisites</strong> Successful completion of NURS 750.</td>
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<td>NURS 762</td>
<td>3</td>
<td>Integrative Health Care Practicum I</td>
<td>Development of skill in mind-body therapies. Exploration and evaluation of providers of complementary therapies in the community that enables the student to develop a knowledge base regarding appropriate therapies for common health problems. <strong>Prerequisites</strong> NURS 722</td>
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<td>NURS 764</td>
<td>8</td>
<td>Primary Care in Pediatrics: Chronic Conditions</td>
<td>Research based assessment, diagnosis, management and evaluation of common developmental and behavioral problems affecting children and families. <strong>Notes</strong> Nine hours of precepted clinical experience in primary care per week. <strong>Prerequisites</strong> NURS 714, NURS 744</td>
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<td>NURS 765</td>
<td>4</td>
<td>Executive/Advanced Practice DNP Residency</td>
<td>Residency to apply program concepts and develop and implement strategies for practice-level and/or system-wide practice initiatives to improve the quality of care. <strong>Prerequisites</strong> Completion of term 4 course work for DNP Program.</td>
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<td>NURS 766</td>
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<td>Capstone Seminar I</td>
<td>Capstone seminar provides students with the opportunity to synthesize core and major coursework completed during the program of graduate study. Capstone seminar I, the first of two capstone credits, culminates in the submission of the first written draft of the capstone project. The capstone is fully developed in capstone II. <strong>Prerequisites</strong> NURS 706 and NURS 707.</td>
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<td>NURS 767</td>
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Collaboration, Communication & Negotiation for the Nurse Leader
The utilization of collaboration, communication and negotiation for implementation of practice models, peer review, practice guidelines, health policy, standards of care, and other scholarly products. Prerequisites NURS 786 DNP Project: Planning for Change.

NURS 768 Credits 2
DNP Forum & Role Transformation
Examination of issues and challenges in the DNP role and skills and strategies to conceptualize, articulate, plan, and actualize a career as a nurse leader. Prerequisites Completion of term 4 course work for DNP Program.

NURS 769 Credits 8
Primary Care of the Family III
This final clinical seminar focuses on continued clinical expertise and relies on the knowledge and skills learned in previous courses. Students gain skill in providing care to families with increasing independence under the supervision of a preceptor and clinical instructor. ( 1 credit of seminar = 2 contact hours, 7 credits of clinical = 21 contact hours of clinical per week. Prerequisites Successful completion of NURS 749/NURS 749L and NURS 759/NURS 759L.

NURS 770 Credits 3
Knowledge Development in Nursing
Offers a disciplinary context for doctoral study in nursing. The history and evolution of nursing knowledge is examined. Emphasis is on debates regarding what is known and how it is known. Prerequisites Enrollment in nursing doctoral program.

NURS 771 Credits 3
Theory Development in Nursing
Theoretical frameworks that guide the development of nursing knowledge. The methods and processes of theory development are analyzed. Prerequisites Enrollment in doctoral program.

NURS 772 Credits 3
The Nurse as Leader
Leadership models as templates for nurse leader. Factors that influence leadership will be explored. Prerequisites Enrollment in the nursing doctoral program.

NURS 773 Credits 3 - 6
Clinical Practicum
Designed for students continuing a clinical practicum while completing NURS 795/799/796. Students enrolled in this clinical practicum course must register for at least 3 credits (this translates to at least nine hours of clinical per week) but no more than six credits in any one semester. Notes May be repeated up to three consecutive semesters but a student may not take more than a total of nine credits. Prerequisites Successful completion of NURS 769/NURS 769L.

NURS 774 Credits 3
Educational Theory and Philosophy for Nursing
Explores traditional and contemporary philosophies and theories of education within the context of societal development. Examines the role of educational theory and philosophy within nursing education. Prerequisites Enrollment in nursing doctoral program.

NURS 775 Credits 3
Statistical Methods for Nursing Research I: Univariate Methods
Designed to provide students with skills necessary to understand, interpret, and
conduct descriptive and univariate analysis relevant to the field of nursing. Students will gain practical experience examining real-world data sets using SPSS software. **Prerequisites** Enrollment in the nursing doctoral program; successful completion of introductory graduate level statistics course.

**NURS 776**  
**Credits 3**  
**Statistical Methods for Nursing Research II: Multivariate Methods**  
Focuses on multivariate methods useful for the field of nursing research. Students will be expected to complete a capstone project to explore and implement statistical methods likely to be part of their dissertation projects. **Prerequisites** NURS 775 or equivalent; enrollment in the nursing doctoral program.

**NURS 777**  
**Credits 1 - 8**  
**Individualized Study/Dissertation Seminar**  
Individualized study or seminar to facilitate dissertation research. **Notes** May be repeated to a maximum of eight credits. **Prerequisites** Admission into doctoral program or permission of instructor.

**NURS 778**  
**Credits 3**  
**Geographic Information Systems for Health**  
Introduces the use of epidemiologic methods and modern geographic information systems to analyze the relationships between socioeconomic, physical, geopolitical, and demographic factors and urban health. These techniques for the basis of assessment of urban health problems to inform, plan, deliver, and evaluate appropriate interventions to ensure urban sustainability. **Prerequisites** Admission into doctoral program or permission of instructor.

**NURS 779**  
**Credits 2**  
**Writing a Research Grant Application**  
Involves preparing and writing a research grant application. Students will learn how to prepare a research budget and budget justification; write a resources and environment section, a biosketch, and project timeline; and propose an innovative and significant research proposal. **Prerequisites** NURS 780 or permission of instructor.

**NURS 780**  
**Credits 3**  
**Research Methods in Nursing**  
Examines qualitative, quantitative and mixed-method approaches used in nursing research. **Prerequisites** Admitted to nursing doctoral program.

**NURS 781**  
**Credits 3**  
**Qualitative Data Analysis Processes**  
Study of range of approaches to management of qualitative data; exploration of criteria for validity and reliability of outcomes. **Prerequisites** NURS 780, Enrollment in the Nursing Ph.D. Program.

**NURS 782**  
**Credits 4**  
**Sustainability of Urban Health: Clinical Perspectives**  
Focuses on air quality, potable water, waste disposal, disasters, and other potentially health-threatening urban environmental problems that affect urban sustainability in developing and developed countries. The impact of sustainability environmental practices on urban health will be examined. **Prerequisites** NURS 778, admission into doctoral program or permission of instructor.

**NURS 783**  
**Credits 3**  
**Economics of Sustaining Urban Health**  
Uses an economic sustainability approach to examine health effects of such issues as health insurance and health care financing,
acute and chronic disease, and psychosocial issues. The economics of urban health in
developing and developed countries will be compared. **Prerequisites** Admission into
doctoral program or permission of instructor.

**NURS 784**  
*Health and Public Policy for Urban Sustainability*  
Examines urban health promotion in terms of primary, secondary, and tertiary
prevention, with an emphasis on the policy issues and critical processes that shape them.
Apply theories to identify urban health promotion issues that are linked to
sustainability and identify policy strategies for upstream interventions. **Prerequisites**
Admission into doctoral program or permission of instructor.

**NURS 785**  
*Special Topics in Nursing Research*  
Provides the student with an opportunity for an in-depth exploration of specific aspects of
nursing research issues and approaches. **Prerequisites** NURS 780 and admission to
doctoral program.

**NURS 786**  
*DNP Project: Planning for Change*  
Planning, managing, evaluating, and sustaining change in the healthcare
environment. Establishes communication with the faculty advisor to develop DNP project. **Prerequisites** Completion of the
first term of DNP coursework or permission of the instructor.

**NURS 787**  
*DNP Project: Implementing & Evaluating Change*  
Topics that support students’ implementation and evaluation of their DNP projects.

**Prerequisites** Completion of NURS 786 (Project Proposal Plan).

**NURS 788**  
*Credits 2*  
*DNP Project: Project Defense*  
Presentation and discussion of completed DNP projects on campus. **Prerequisites**
Completion of NURS 787.

**NURS 789**  
*Credits 3*  
*Independent Study*  
Supervised student designed study project done in consultation with instructor; must be
submitted in writing to student advisor and graduate program coordinator for approval. **Prerequisites** NURS 770, NURS 771,
NURS 772, NURS 780, enrollment in nursing doctoral program.

**NURS 790**  
*Credits 1*  
*Independent Teaching Practicum Seminar*  
Exploration in group settings of actual experiences and outcomes of independent
teaching practicum. Options for enhanced personal performance as nurse educator will
be discussed. **Notes** Must be taken concurrently with NURS 791. **Prerequisites**
NURS 724, NURS 733 and enrollment in nursing doctoral program.

**NURS 791**  
*Credits 8*  
*Independent Teaching Practicum*  
Integrate knowledge and competencies of nurse educator through application in
independently taught undergraduate nursing course; systematic exploration of roles,
responsibilities, and opportunities inherent in practice of nursing education. **Prerequisites**
NURS 724, NURS 733 and enrollment in nursing doctoral program.

**NURS 792**  
*Credits 3*  
*Outcomes Management & Performance Improvement in Nursing*
Application of concepts of quality improvement and safety to the management of outcomes in healthcare and nursing systems to ensure delivery of quality interprofessional care. **Prerequisites** Completion of Term 3 of DNP program.

**NURS 793 Credits 3**  
**Nursing Education Professional Paper**  
Focuses on a key area of nursing education requiring exploration and development. Students will select a committee to provide review and guidance. The final paper will be adapted and submitted for publication to a professional, peer-reviewed journal. **Prerequisites** NURS 706, NURS 707, and NURS 733.

**NURS 795 Credits 3**  
**Research Utilization Project**  
Identify a clinically based problem in area of nursing practice. Evaluate extent current practice deviates from research based practice. Design, implement and systematically evaluate a research-based innovation project. **Notes** May be repeated, but only six credits may be applied to the student's program. **Grading** S/F grading only. **Prerequisites** NURS 706, NURS 707

**NURS 796 Credits 1**  
**Capstone Seminar II**  
Capstone seminar II provides students with the opportunity to complete the development of the graduate program capstone project initiated in seminar I. The final written project will be submitted for grading, and the project will be presented orally to the student's advising committee and any interested parties. **Prerequisites** NURS 766

**NURS 797 Credits 1 – 12**  
**Dissertation**  
Research analysis and writing toward completion of dissertation and subsequent defense. **Grading** S/F grading only. **Prerequisites** Enrollment in nursing doctoral program and consent of instructor.

**NURS 798 Credits 1 – 3**  
**Independent Study**  
Graduate seminar focusing on current developments in nursing practice. **Notes** Topics vary each semester. **Prerequisites** Admission to graduate program and consent of instructor.

**NURS 799 Credits 3**  
**Thesis**  
**Notes** May be repeated, but only six credits may be applied to the student's program. **Grading** S/F grading only. **Prerequisites** NURS 706, NURS 7
William F. Harrah College of Hotel Administration

Graduate education in the William F. Harrah College of Hotel Administration is a personalized experience. There is no better place to learn about the hospitality profession than the entertainment capital of the world—Las Vegas. Here we have a living laboratory with more than 146,000 hotel rooms and hundreds of casinos, restaurants, resorts, sporting events, conventions, trade shows, and leisure and recreation facilities. If you are interested in a post-graduate degree that will advance your career or prepare you to teach others about the hospitality industry, this is the place for you. We offer a master’s of science degree in Hotel Administration plus a dual MBA and M.S. in Hotel Administration degree, and, a dual M.S. in Hotel Administration and Master of Science in Management Information Systems degree. We also have an executive master’s degree and a Ph.D. in Hospitality Administration. Our internationally recognized, diverse faculty members will help you create an academic program that meets your unique needs.

Donald D. Snyder, Dean
(2010), B.S., University of Wyoming.

Associate Deans
Kathleen Pearl Brewer, Associate Dean for Academic & Student Affairs
(1993), Professor; B.S., M.S., Ph.D., Purdue University.

Tony L. Henthorne, Associate Dean for Research, Graduate & International Programs
(1986), Professor; B.A., Ouachita Baptist University; M.B.A., University of Arkansas, Fayetteville; Ph.D., University of Mississippi.

Patrick L. Moreo, Associate Dean for Operations and Executive Education

Graduate Studies
Curtis Love, Director of Graduate Studies and M.S. Hotel Administration Program
(1998), Associate Professor; B.S., University of Southern Mississippi; M.A., Ph.D., University of Alabama.

James A. Busser, Director, Ph.D. Program
(1987) Professor; B.A., Illinois State University; M.S., Ph.D., University of Illinois-Champaign-Urbana.

Gail Sammons, Director of Master of Hotel Administration Executive Online Program
(1996), Professor; B.S., North Dakota State University; M.S., University of Nevada, Las Vegas; Ph.D., Pennsylvania State University.

Karl Mayer, Director of the dual MBA/Master of Science in Hotel Administration and Master’s of Science in Hotel Administration/Master of Science in Management Information Systems Programs
(2001), Associate Professor; B.S., University of Wisconsin-Madison; M.S., Columbia University; M.B.A., Harvard University; Ph.D., University of Nevada, Las Vegas.

Graduate Faculty
Bai, Billy
(2001), Associate Professor; B.A., Nankai University; M.Phil., Hong Kong Polytechnic University; M.S., Ph.D., Purdue University.

Baloglu, Seyhmus
(1996), Professor; B.S., Cukurova University; M.B.A., Hawaii Pacific University; Ph.D., Virginia Polytechnic Institute and State University.
Berghel, Hal  
(1999), Professor; B.A., M.A., M.A., Ph.D.,  
University of Nebraska, Lincoln.

Bergman, Christine  
(2005), Professor; B.S., Loma Linda  
University; M.S., University of Arizona;  
Ph.D., Michigan State University.

Bernhard, Bo Jason  
(2002), Associate Professor; B.A., Harvard  
University; Ph.D., University of Nevada,  
Las Vegas.

Braunlich, Carl  
(2006), Associate Professor; B.S., M.S.,  
Cornell University; D.B.A., United States  
International University.

Brewer, Kathleen Pearl  
(1993), Professor; B.S., M.S., Ph.D., Purdue  
University.

Busser, James A.  
(1987) Professor; B.A., Illinois State  
University; M.S., Ph.D., University of  
Illinois-Champaign-Urbana.

Chatfield, Hyun Kyung  
(2008), Assistant Professor; B.S., M.B.A.,  
Ph.D., University of Nevada, Las Vegas.

Christianson, David J.  
(1977), Professor; B.A., M.R.E., Brigham  
Young University; Ph.D., Texas A&M  
University.

Dalbor, Michael C.  
(2000), Professor; B.S., Ph.D., Pennsylvania  
State University; M.B.A., Loyola College.

Eade, Vincent  
(1986), Professor; B.A., M.A., Bonaventure.

Erdem, Mehmet  
(2006), Associate Professor; B.S., M.S.,  
Purdue University; Ph.D., University of  
Nevada, Las Vegas.

Hardigree, Christian  
(2001), Associate Professor; B.S.,  
University of Nevada, Las Vegas; J.D.,  
Mercer University School of Law.

Henthorne, Tony L.  
(1986), Professor; B.A., Ouachita Baptist  
University; M.B.A., University of Arkansas,  
Fayetteville; Ph.D., University of  
Mississippi.

Hertzman, Jean  
(2006), Assistant Professor; B.S., Cornell  
University; M.B.A., Tulane University;  
Ph.D., University of Nevada, Las Vegas.

Jones, Thomas  
(1990), Associate Professor; B.F.A.,  
University of South Dakota; B.S., M.S.,  
University of Nevada, Las Vegas; Ed.D.,  
Arizona State University.

Kim, Yen-Soon  
(2005), Assistant Professor; B.S., M.S.,  
Soonchunhyang University; Ph.D.,  
Oklahoma State University.

Kincaid, Clark S.  
(2004), Associate Professor; B.A., Southern  
Utah State College, M.S., Ph.D., University  
of Nevada, Las Vegas.

Love, Curtis C.  
(1998), Associate Professor; B.S.,  
University of Southern Mississippi; M.A.,  
Ph.D., University of Alabama.

Lucas, Anthony
(2001), Associate Professor; B.S., Ball State University; M.B.A., Ph.D., University of Nevada, Las Vegas.

Mayer, Karl
(2001), Associate Professor; B.S., University of Wisconsin-Madison; M.S., Columbia University; M.B.A. Harvard University; Ph.D., University of Nevada, Las Vegas.

McLean, Daniel
(2007), Professor; B.A., Sacramento State College; M.A., Brigham Young University; Ph.D., Kansas State University.

Montgomery, Rhonda
(1995), Associate Professor; B.S., M.S., Purdue University; Ph.D., University of South Carolina.

Moreo, Pat
(1983), Professor; B.S., University of Nevada, Las Vegas; M.P.S., Cornell University; Ed.D., University of Nevada, Las Vegas.

Raab, Carola
(2003), Associate Professor; B.S., M.B.A., Ph.D., University of Nevada, Las Vegas.

Sammons, Gail
(1996), Professor; B.S., North Dakota State University; M.S., University of Nevada, Las Vegas; Ph.D., Pennsylvania State University.

Singh, Ashok
(1991), Professor; B.S., M.S., Lucknow University; Ph.D., Purdue University.

Swerdlow, Skip

Tanford, Sarah
(2008), Assistant Professor; B.A., Northwestern University; M.S., Ph.D., University of Wisconsin-Madison.

Werner, William B.
(2001), Associate Professor; B.A., Ohio State University; J.D., University of Cincinnati.

Woods, Robert N.
(2000), Professor; B.S., University of Oklahoma; M.S., Ph.D., Cornell University.

Deans and Professors Emeriti

Abbey, James R.
(1973-2000), Emeritus Professor; B.A., M.B.A., Michigan State University; Ph.D., Utah State University.

Borsenik, Frank D.
(1975-1994), Emeritus Professor; B.S., M.S., Ph.D., Michigan State University.

Goodwin, John R.
(1980-1993), Emeritus Associate Professor; B.A., Michigan State University; M.A., Pepperdine University; D.B.A., United States International University.

Gu, Zheng
(1991), Emeritus Professor; B.S., Hangzhou University; M.S., Ph.D., University of Central Florida.

Holmes, David
(1976), Emeritus Professor; B.S., M.S., Indiana State University; Ph.D., University of Utah.

Mann, Stuart H.
(1998), Emeritus Dean of the William F. Harrah College of Hotel Administration; B.S., University of Illinois; M.S., Ph.D., Case Western Reserve University.

McCool, Audrey
The William F. Harrah College of Hotel Administration is known for its tradition of offering world-class programs in hospitality administration. The Ace Denken Co. Ltd. Endowment supports the Ph.D. in Hospitality Administration.

**Dual Degrees: MBA and Masters of Science in Hotel Administration (MS HOA); Master of Science in Hotel Administration (MS HOA) and Master of Science in Management Information Systems (MS MIS)**

There are two dual degrees offered by the Harrah Hotel College in conjunction with UNLV’s Lee Business School. The MBA/MS HOA is designed for those who seek business leadership opportunities in hotel administration. The 54-credit degree provides students with the needed skills, knowledge, and tools to become visionary and creative business leaders in the hospitality industry. The 33-credit MBA portion of the degree advances the knowledge and practice of general business administration.

The 48-credit MS HOA/MS MIS degree is for those who seek career opportunities in the information technology sector of the hospitality industry. The 24-credit MS MIS portion of this degree helps students develop critical skills in information technology systems analysis and design.

The MS HOA portion of the two degrees (21 credits for the MBA dual; 24 credits for the MIS dual) helps students acquire knowledge specific to the management of hospitality operations. Either of these programs will take at least three years (six semesters) to complete. The completion of a professional paper is included in the credit totals of both programs.

**Admission**

The admission requirements for the dual degree programs are the same as those stated under the MBA, MS MIS, and MS HOA programs. The only exception is that the dual MBA program only accepts the GMAT for admission. Dual MS MIS applicants may take the GRE or the GMAT. All dual program applicants are required to show that they have at least one year of full-time management/supervisory experience or three years of cumulative full-time front-line experience in the hospitality industry.

**Application Process**

See the Application Process section under the MBA, MS MIS, and the MS HOA programs. Applications will be reviewed by representatives of the Lee Business School and the William F. Harrah College of Hotel Administration in an independent process within each college. Applicants must be admitted to both the Lee Business School and the William F. Harrah College of Hotel Administration to qualify for either dual degree program for that term.

**Application Deadlines**

Fall: May 1
Spring: October 1
All documentation and application materials must be received by the Graduate College, the William F. Harrah College of Hotel Administration Graduate Studies Office, and the Lee Business School by the deadline for the application to be considered.

Degree Requirements

MBA/MS HOA
Students must be admitted to both the MBA and MS HOA programs with graduate standing. For the dual MBA/MS HOA program, a student must successfully complete the 54 total credit hours with 33 required credit hours of MBA core courses, and 21 required credits hours of MS HOA courses, consisting of eighteen credits of required courses and one three-credit elective course (any 500/700 level HOA course). Students must complete an initial nine-credit course load in the MBA program (i.e., MBA 702, MBA 709, MBA 710) before enrolling in any Hotel Administration courses.

MS HOA/MS MIS
Students must be admitted to both the MS HOA and MS MIS programs with graduate standing. For this dual program, a student must complete 48 total credit hours, with 24 in the MS HOA program and 24 total credit hours in the MS MIS program. The 48 credits consist of 16 required courses. There are no elective courses in this degree program. Students must first complete a nine-credit course load in the MS MIS program (i.e., MIS 740, MIS 744, MIS 760) before enrolling in any MS HOA courses.

Professional Paper
The dual degree programs require successful completion of a professional paper that must adhere to the standards in the American Psychological Association’s current publication manual regarding writing style and format.

MBA/MS HOA Course Listings

A. MBA Core Courses - Total Credits: 33

- MBA 702 - Statistical Analysis

- MBA 706 - Law, Regulations and Ethical Issues

- MBA 707 - Organizational Behavior

- MBA 709 - Accounting for Managers

- MBA 710 - Applied Economic Analysis

- MBA 711 - Managerial Finance

- MBA 715 - Market Opportunity Analysis

- MBA 720 - Supply Chain Management

- MBA 730 - Information Systems for Management

- MBA 735 - International Business and Cross Cultural Perspectives

- MBA 795 - Strategy Formation Processes

B. MS HOA Core Courses - Total Credits: 21

- HOA 703 - Human Resources Management in the Hospitality Industry

- HOA 716 - Principles and Practices in Hotel Management

or

- HOA 717 - Principles and Practices in Convention and Meetings Management

or

- HOA 718 - Principles of Casino and Gaming Management

or

- HOA 720 - Principles and Practices in Food Service Management

- HOA 735 - Research Methodology

- HOA 760 - Research Seminar in Hotel Administration

or

- HOA 761 - Research Seminar in Food Service Administration

or

- HOA 763 - Research Seminar In Casino and Gaming Management

or

- HOA 777 - Critical Issues in Hospitality Management

- HOA 751 - Hospitality Service Management

- HOA Elective (any 500- or 700-level HOA class)
HOA 788 - Professional Paper
(Professional paper must be completed at the end of the dual program and examine a research topic relating to business administration in hospitality)

C. MS MIS Core Courses – Total 24 Credits
- MIS 740 - Software Concepts
- MIS 744 - Information Systems Planning & Strategy
- MIS 760 - Data Communications and Systems
- MIS 762 - Systems Analysis, Modeling and Design
- MIS 764 - Advanced Web Development and Electronic Commerce
- MIS 766 - Data Management
- MIS 775 - IT Architecture for Business
- MIS 776 - Business Intelligence

With approval of the MS MIS program graduate coordinator, required MIS courses may be substituted with elective courses to avoid duplication of a student’s previous course work and to address the needs of the student’s specific career choice.

D. MS HOA Core Courses – Total Credits 24
- HOA 711 - Laws of Innkeeping and Food Service
- HOA 716 - Principles and Practices in Hotel Management
  or
- HOA 717 - Principles and Practices in Convention and Meetings Management
  or
- HOA 718 - Principles of Casino and Gaming Management
  or
- HOA 720 - Principles and Practices in Food Service Management
- HOA 731 - Operational Analysis in Hospitality Management
- HOA 735 - Research Methodology
- HOA 725 - Information Technology in the Hospitality Industry

- HOA 751 - Hospitality Service Management
- HOA 760 - Research Seminar in Hotel Administration
  or
- HOA 761 - Research Seminar in Food Service Administration
  or
- HOA 763 - Research Seminar In Casino and Gaming Management
  or
- HOA 777 - Critical Issues in Hospitality Management
- HOA 788 - Professional Paper (Professional paper must be completed at the end of the dual program and examine a topic relating to Information Technology in Hospitality)

Hospitality Administration
Ph.D.

The Ph.D. program is a multi-conceptual and research-based degree program designed to produce top quality hospitality and tourism educators and researchers. It focuses on preparing students to be excellent teachers at the university level, and engages them in scholarly research in hospitality and tourism management. Upon graduation, students will be able to teach and conduct research at the university level, and work at industry research institutions. The Ph.D. program is highly competitive, seeking motivated individuals who are committed to pursuing academic and research careers in hospitality and tourism. The program is partly supported by the Ace Denken Co. Ltd. Endowment.

Admission Requirements

The student must satisfy the minimum admission requirements of the Graduate College and the Harrah Hotel College including:

1. Completed online application found in the upper right-hand column of the Graduate
7. Current resume (must have three or more years of management/supervisory experience in the hospitality industry).
8. Three Letters of Recommendation are required. It is preferred that these letters come from two college faculty members and one current or former employer. However, recommendations from one faculty member and two employers will suffice.
9. A master’s level thesis or the equivalent.

International applicants: if English is not the applicant’s native language and his/her baccalaureate degree was not from a school where English was the language of instruction, the applicant must complete one of the language tests listed below with the minimum score indicated or above:

- TOEFL: Paper-based Test: 550 (minimum writing score: 58)
  Computer-based Test: 213 (minimum writing score: 24)
  Internet-based Test: 80 (minimum writing score: 21, minimum speaking score: 21).

- Michigan Test: 85% (minimum scores: 40 out of 50 speaking, 40 out of 50 writing)

- IELTS: 7

- Pearson English Language Test: 65

Addresses

Graduate College
4505 S. Maryland Parkway, Box 451017
Las Vegas, NV 89154-1017
702-895-3320
http://graduatecollege.unlv.edu

Graduate Studies Office
William F. Harrah College of Hotel Administration
University of Nevada, Las Vegas
4505 Maryland Parkway, Box 456017
Las Vegas, NV 89154-6017
Application Deadline:

Fall: February 1
This program does not admit for the spring semester.

All documentation and application materials must be in the Graduate College and the William F. Harrah College of Hotel Administration Graduate Studies Office by the deadline for the application to be considered.

Degree Requirements

Total Credits Required for the Hospitality Administration Ph.D.: 60

All requirements listed below must be completed successfully as defined by the William F. Harrah College of Hotel Administration and the Graduate College.

Required Core Courses (Total Credits: 12)
- HOA 794 - Issues and Trends for Hospitality Educators (to be repeated three different semesters - one credit each)
- HOA 798 - Readings in Hospitality Management
- HOA 797 - Philosophy of Science in Hospitality Research
- HOA 795 - Research Seminar in Hospitality Education

Required Quantitative Methodology and Qualitative Methodology (Total Credits: 9)
- HOA 735 - Research Methodology
- HOA 796 - Advanced Research Methodology
- EPY 718 - Qualitative Research Methodologies

Required Statistical Analysis - two courses from the following (Total Credits: 6)
- STA 713 - Experimental Design
- STA 715 - Multivariate Statistical Methods
- EPY 722 - Inferential Statistics and Experimental Design
- EPY 732 - Multiple Regression and Path Analysis
- EPY 733 - Multivariate Statistics
- EPY 734 - Latent Variable Models: Factor Analysis and SEM
- EAB 763 - Linear Statistical Models
- EAB 783 - Multivariate Methods for the Health Sciences
- PSC 702 - Advanced Quantitative Methods

Major and Minor Area of Study (Total Credits: 15)

Courses to be approved by student's chair and the academic advisor.

Major area course: 3, 3-credit courses

Major area course: 2, 3-credit courses

Electives (Total Credits: 6)

Can be used to fulfill a prerequisite if the courses are at the 700 level or higher.

Dissertation (Total Credits: 12)

HOA 799 - Dissertation

1. Must have at least 24 credits in the William F. Harrah College of Hotel Administration (excluding dissertation credits) and 12 credits outside of the Harrah Hotel College. All credits must be from 700 level courses.

2. Successful completion of all courses approved on the student's graduate program of study with a 3.00 or better. Any credits completed with less than a 2.00 may result in the student’s termination from the program.

3. After the first year of course work, but before the end of the fourth semester, a qualifying exam must be passed.
4. The student must file an approved degree plan before the start of the third semester after admission to the program. The degree plan must be developed in consultation with the student’s Doctoral Advising Committee Chair, the Doctoral Advising Committee, the Director of the Ph.D. Program, and the Executive Director of Graduate Studies and Research.

5. Simultaneous to the last semester of content-related course work (non-dissertation credits), the student must pass a major and minor area comprehensive exam. This exam is designed by the student’s Doctoral Advising Committee under the direction of the Doctoral Advising Chair. This exam must be taken within five years of the admission date.

6. The student must successfully write and orally defend his/her dissertation proposal and the completed dissertation. The dissertation must be of substantial quality and length, original in thought and research, and make a significant contribution to the body of knowledge in the field of hospitality administration. Upon approval of the Doctoral Advising Committee, the student will orally defend both the dissertation proposal and the completed dissertation.

7. All students admitted to the program may spend the equivalent of two semesters completing an approved internship if necessary.

For additional information, please contact Dr. James Busser, Director of the Ph.D. Program, William F. Harrah College of Hotel Administration, at (702) 895-0942, or by email at james.busser@unlv.edu.

**Hotel Administration MS**

The 36-hour Master of Science in Hotel Administration degree program will prepare you for a successful career as an upper-level executive in the hospitality industry or as an instructor/researcher in a hospitality education program. You can choose from several tracks of study including food service management, hotel management, hospitality education, convention and meetings management, or casino and gaming management.

Students have the opportunity to conduct research on a subject that interests them by writing a thesis or a professional paper. This decision will be based upon the student’s goals and consultation with an academic advisor. Copies of the completed thesis must meet the guidelines of the UNLV Graduate College and be completed according to published deadlines.

**Admission Requirements**

The student must satisfy the minimum admission requirements of the UNLV Graduate College and the William F. Harrah College of Hotel Administration, including:

1. Submission of a completed online application form and required admission fee.
2. Submission of two copies of official transcripts from all institutions attended after high school. One copy should be sent directly from the institution attended to the UNLV Graduate College and another one to the Harrah Hotel College Graduate Studies Office. Please note: it is a requirement of the UNLV Graduate College that students with class credits and/or degrees from educational institutions outside the United States must provide a course-by-course evaluation of those credentials by a NACES Evaluation Agency. This is to obtain an evaluation of the courses, verification of degrees, and establish accreditation of the schools and/or universities. A copy of this evaluation should be sent to both the UNLV Graduate College and the Harrah Hotel Graduate Studies Office. Unofficial copies of transcripts may be uploaded with the online application form.
3. A baccalaureate degree from an accredited institution with a minimum overall GPA of 2.75 on a 4.00 scale, or 3.00 in the last two years of study.
4. A satisfactory composite score on the Graduate Record Examination (GRE) (dept
code 4208), minimum score 1150 or 50th percentile—with at least 35% on the verbal portion, or the Graduate Management Admissions Test (GMAT) (dept code ZSC 3739), minimum score 550 -- with at least 25% on the verbal portion. All scores must be sent directly from the testing center to the Harrah Hotel College Graduate Studies Office.

5. A minimum of one year of full-time work experience in a management/ supervisory capacity in the hospitality industry, or three years of full-time, front-line experience.

6. A brief essay of approximately 500 words outlining the applicant’s career goals and how the applicant’s hospitality employment background has prepared him/her for graduate study.

7. Two letters of recommendation, one from a current or former employer and one from a college faculty member able to evaluate the applicant’s potential for success in a graduate program. If the applicant is no longer in touch with faculty members, letters from two employers will suffice.

8. A current resume with employer references. The resume should clearly indicate job titles, places and dates of employment, and specific job responsibilities.

9. International applicants: if English is not the applicant’s native language, and his/her baccalaureate degree was not from a school where English was the language of instruction, the applicant must complete one of the language tests listed below with the minimum score indicated or above:

TOEFL:

Paper-based Test: 550 (minimum writing score: 58)

Computer-based Test: 213 (minimum writing score: 24)

Internet-based Test: 80 (minimum writing score: 21, minimum speaking score: 21)

Michigan Test:

85% (minimum scores: 40 out of 50 speaking; 40 out of 50 writing)

IELTS:

7

Pearson English Language Test:

65

Unofficial scores may be submitted with the online application, but official scores must be sent directly from the testing center to the UNLV Graduate College to complete the application.

Items 6, 7, and 8 above can be submitted to the Harrah Hotel College Graduate Studies Office by email or mail. Recommendation letters must be mailed or emailed directly from the employer or professor, not forwarded by the applicant.

Addresses:

UNLV Graduate College
4505 S. Maryland Parkway, Box 451017
Las Vegas, NV 89154-1017
702-895-3320
http://graduatecollege.unlv.edu

Harrah Hotel College Graduate Studies Office
4505 Maryland Parkway, Box 456017
Las Vegas, NV 89154-6017
702-895-3321
hotelgrad@unlv.edu
http://hotel.unlv.edu

Application Deadlines

Fall: International Students - May 1; Domestic Students - August 1
Spring: International and Domestic Students - October 1

Degree Requirements
In addition to the general requirements established by the UNLV Graduate College, the candidate must meet the following Harrah Hotel College requirements:

1. Successfully complete a minimum of 36 graduate-level credit hours, of which no less than 24 are in Hotel Administration. This allows for a variety of supplemental tracks including business and education. At least 27 credits must be at the 700-level.

2. Successfully complete supplemental courses as required by the academic advisor, if the student’s undergraduate preparation is insufficient. Generally, no more than six credits of supplementary courses will be required.

3. Required courses:
   - HOA 703 - Human Resources Management in the Hospitality Industry
   - HOA 705 - Financial Analysis for the Service Industries
   - HOA 711 - Laws of Innkeeping and Food Service
   - HOA 716 - Principles and Practices in Hotel Management
   - HOA 717 - Principles and Practices in Convention and Meetings Management
   - HOA 718 - Principles of Casino and Gaming Management
   - HOA 720 - Principles and Practices in Food Service Management
   - HOA 730 - Statistical Analysis for Hospitality
   - HOA 731 - Operational Analysis in Hospitality Management
   - HOA 735 - Research Methodology
   - HOA 740 - Marketing Systems
   - HOA 760 - Research Seminar in Hotel Administration
   - HOA 761 - Research Seminar in Food Service Administration
   - HOA 763 - Research Seminar In Casino and Gaming Management
   - HOA 764 - Research Seminar in Convention Management
   - HOA 777 - Critical Issues in Hospitality Management
   - HOA 788 - Professional Paper
   - HOA 789 - Thesis

A student may opt to write a thesis (six credits) or a professional paper (three-credits and a three credit supporting course). The thesis option is designed for students with a research orientation. An oral examination is required of all candidates for the M.S. degree.

*Students may substitute a supporting course for HOA 760, HOA 761, HOA 795, HOA 763, HOA 764 or HOA 777 if they are taking a concentration of courses in one area such as human resource management, accounting, or marketing and they have the approval of their academic advisor. Supporting courses should meet the student’s degree objectives. These courses may be taken in any graduate department in the university and must be approved by the student's graduate advisor.

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**Master’s of Hospitality Administration - Executive Online Program (MHA)**

The Master's of Hospitality Administration (MHA) degree is a 30-credit program designed to bring hospitality executives together to learn the latest management and leadership techniques in an executive format, via the Internet and other media.
Demand determines the class schedule for the program.

Courses are taught entirely online—there is no requirement that any student come to the main UNLV campus (although all students are encouraged to participate in the graduation exercises). Courses are offered throughout the year in five eight-week sessions. Two sessions are scheduled during the fall and spring semesters and one during the summer semester. At least two required courses and two elective courses are offered during each session. The professional paper class is offered during the regular 16-weeks of the Fall and Spring semesters and for an extended time during the Summer semester to afford students time to complete their projects. The professional paper should adhere to the American Psychological Association’s current publication manual regarding writing style and format.

In addition to regular tuition and fees, this program has an additional fee of $510 per credit to cover the cost of delivery in an executive format. For more information, contact the program coordinator at (702) 895-5430.

Admission Requirements

The applicant must meet the following requirements:

1. Submission of completed online application form and required admission fee.
2. Submission of official transcripts from all institutions attended after high school to both the Harrah Hotel College Graduate Studies Office and the UNLV Graduate College. Please note: it is a requirement of the UNLV Graduate College that students with class credits and/or degrees from educational institutions outside the United States must provide a course-by-course evaluation of those credentials by a NACES Evaluation Agency. This is to obtain an evaluation of the courses, verification of degrees, and establish accreditation of the schools and/or universities. A copy of this evaluation should be sent to both the UNLV Graduate College and the Harrah Hotel College Graduate Studies Office.
3. A baccalaureate degree from an accredited four-year college or university with an overall undergraduate grade point average of 2.75 on a 4.00 scale or at least 3.00 in the last two years of undergraduate work. Please note: neither the GRE or the GMAT is required for admission to this program.
4. Three or more years of full-time experience in a management/supervisory capacity in the hospitality industry.
5. Two letters of recommendation, one from a current or former employer and one from a college faculty member able to evaluate the applicant’s potential for success in a graduate program. If the applicant is no longer in touch with faculty members, letters from two employers will suffice.
6. A current résumé with employer references. The resume should clearly indicate job titles, place and dates of employment, and specific job responsibilities.
7. A brief essay of approximately 500 words outlining the applicant’s career goals and reasons for pursuing a graduate degree.
8. International applicants: if English is not the applicant’s native language, and his/her baccalaureate degree was not from a school where English was the language of instruction, the applicant must complete one of the language tests listed below with the minimum score indicated or above:

<table>
<thead>
<tr>
<th>Test</th>
<th>Paper-based Test</th>
<th>Computer-based Test</th>
<th>Internet-based Test</th>
<th>Michigan Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOEFL:</td>
<td>550 (minimum writing score: 58)</td>
<td>213 (minimum writing score: 24)</td>
<td>80 (minimum writing score: 21, minimum speaking score: 21)</td>
<td>85% (minimum scores: 40 out of 50 speaking; 40 out of 50 writing)</td>
</tr>
</tbody>
</table>
IELTS: 7
Pearson English Language Test 65

Unofficial scores may be submitted with the online application, but official scores must be sent directly from the testing center to the UNLV Graduate College to complete the application.

IMPORTANT NOTE FOR INTERNATIONAL STUDENTS: Because this program is offered totally online and is available anywhere in the world, UNLV cannot issue an I-20 and one cannot obtain a student visa to come to the United States based upon enrollment in the Master’s of Hospitality Administration program.

Application Deadlines

Fall – August 1
Spring – December 1
Summer – May 1

All documentation and application materials must be in the UNLV Graduate College and the Harrah Hotel College Graduate Studies Office by the deadline listed above for the application to be considered.

Addresses:

UNLV Graduate College
4505 S. Maryland Parkway, Box 451017
Las Vegas, NV 89154-1017
702-895-3320
http://graduatecollege.unlv.edu

Harrah Hotel College Graduate Studies Office
4505 Maryland Parkway, Box 456017
Las Vegas, NV 89154-6017
702-895-3321
hotelgrad@unlv.edu
http://hotel.unlv.edu

Degree Requirements

Students must successfully complete 30 credit hours of 500-/600-level course work in the MHA program in the William F. Harrah College of Hotel Administration. These credits will come from four elective courses, five core courses and a professional paper as determined by the faculty.

Students may take courses in any order with two exceptions: six or more credit hours must be completed before MHA 635 Research Methods can be taken, and it is recommended that the professional paper be taken in the last semester of study. Students can schedule their individual programs with the MHA academic advisor.

Required Courses

- MHA 603 - Human Resources and Behavior in the Hospitality Industry
- MHA 605 - Financial Analysis for the Service Industries
- MHA 640 - Marketing Systems
- MHA 635 - Research Methodology
- MHA 651 - Hospitality Service Management
- MHA 688 - Professional Paper

MHA Elective Courses (for a complete list see “Courses for William F. Harrah College of Hotel Administration” link on the college’s main page of the Graduate Catalog)

- MHA 538 - Fundamentals of Casino Operations
- MHA 604 - Hospitality Organizational Behavior Issues
- MHA 606 - Hospitality Revenue Management
- MHA 611 - Laws of Innkeeping and Food Service
- MHA 616 - Principles and Practices in Hospitality Management
- MHA 617 - Principles and Practices in Convention and Meetings Management
- MHA 618 - Principles of Casino and Gaming Management
- MHA 620 - Principles and Practices in Food Service Management
- MHA 625 - Information Technology in the Hospitality Industry
- MHA 626 - Sustainability in the Hospitality Industry
- MHA 631 - Operational Analysis in Hospitality Management
- MHA 638* - Database Marketing for Hospitality and Tourism
- MHA 641 - Dynamics of Tourism
- MHA 642 - Customer Development Strategies for Casino & Gaming
- MHA 644 - Online Training and Development
- MHA 645 - Human Dynamics and Organizational Leadership
- MHA 646 - Essentials of Negotiation in the Hospitality Industry
- MHA 647 - Intercultural Communication in the Hospitality Industry
- MHA 653 - Event Management
- MHA 654 - Risk Management: Safety and Security in Hospitality and Tourism
- MHA 660 - Research Seminar in Hotel Administration
- MHA 661 - Research Seminar in Food Service Administration
- MHA 662 - Seminar in Hospitality Education
- MHA 663 - Research Seminar in Casino and Gaming Management
- MHA 675 - Seminar in Hospitality Finance
- MHA 681 - Independent Study and Research
- MHA 690 - Special Topics in Hospitality Management

Covers all significant state and federal laws applicable to employment relationships found in hospitality businesses and studies effective methods of managing hospitality employees in compliance with applicable employment laws. Students learn to effectively identify, evaluate and resolve employment law issues and liabilities commonly encountered by hospitality businesses. **Notes:** Credit at the 500-level normally requires additional work.

**HOA 507**  
Organizational Theory Applied to the Service Industries  
Focuses on developing management skills through the study and application of theories of human behavior, particularly in service organizations. Areas addressed include: working with/through others, communication, coaching and counseling, providing feedback, goal setting, stress management, creative problem solving, motivation, power, conflict management, and group dynamics and developing effective teams. **Notes:** Credit at the 500 level normally requires additional work.

**HOA 508**  
Labor Management Relations  
Analysis of labor-management relations in the hospitality industry at the employee, unit, and strategic levels. Development of written and verbal communication and problem identification/solving skills via environmental analysis (historical, legal, social and technological). Other areas include: contract negotiation and administration, union-management cooperative efforts, and strategic labor management decision-making. **Notes:** Credit at the 500-level normally requires additional work.

**HOA 501**  
Hotel Law  
Legal aspects of the owner/customer relationship with particular attention to personal and property liability in the hospitality industry. **Notes:** Credit at the 500 level normally requires additional work.

**HOA 502**  
Employment Law in the Hospitality Industry
disaster control, crisis communication, industrial safety, casino security liaison, and emergency action planning. Notes: Credit at the 500-level normally requires additional work.

HOA 521 Credits 3
Market and Feasibility Studies
Graduate credit may be obtained for courses designated 500 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 500-level normally requires additional work.

HOA 522 Credits 3
Staff Planning and Operational Analyses
Graduate credit may be obtained for courses designated 500 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 500-level normally requires additional work.

HOA 525 Credits 3
Computer Application to the Hospitality System
Evaluation, design, and management of service delivery systems through operations management topics from a service perspective. Included are other related topics such as customer satisfaction and managing organizational change. Notes: Credit at the 500 level normally requires additional work.

HOA 526 Credits 3
Accounting for the Casino Hotel
Detailed examination of accounting systems, procedure, and controls peculiar to casinos required by both management and government for internal auditing, financial reporting, and governmental control.

HOA 535 Credits 3
Management of Hospitality Service Delivery System
Evaluation, design, and management of service delivery systems through operations management topics from a service perspective. Included are other related topics such as customer satisfaction and managing organizational change. Notes: Credit at the 500 level normally requires additional work.

HOA 536 Credits 3
Mathematics of Casino Games
Graduate credit may be obtained for courses designated 500 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 500 level normally requires additional work.

HOA 537 Credits 3
Gaming Regulations and Control
Nevada’s system of gaming regulation and control provides a model for studying the history, purpose, politics, methods, and limitations — both practical and legal — of governmental regulation and control of legal gambling. Notes: Credit at the 500 level normally requires additional work.

HOA 540 Credits 3
Casino Marketing
Marketing concepts as applied to the gaming industry. Notes: Credit at the 500 level normally requires additional work.

HOA 542 Credits 3
Sociology of Gambling
Analysis of patterns of participation in various forms of gambling: political/economic background of gambling; effects of gambling on communities, lifestyles, and value systems. Notes: Credit at the 500 and 600 level normally requires additional work.

HOA 549 Credits 3
International Tourism
Graduate credit may be obtained for courses designated 500 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 500 level normally requires additional work.

HOA 553 Credits 3
Hotel Administration Seminar
Study and discussion of current problems in the hospitality industry using case studies, individual research, and guests. Notes: Credit at the 500 level normally requires additional work.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Course Title</th>
<th>Description</th>
<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>HOA 556</td>
<td>3</td>
<td>Employee Development</td>
<td>Stresses the techniques in planning, developing, and conducting training programs in food service and lodging firms. Notes: Credit at the 500 level normally requires additional work.</td>
<td></td>
</tr>
<tr>
<td>HOA 560</td>
<td>3</td>
<td>Facilities Planning and Equipment</td>
<td>Graduate credit may be obtained for courses designated 500 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 500 level normally requires additional work.</td>
<td></td>
</tr>
<tr>
<td>HOA 570</td>
<td>3</td>
<td>Quantitative Methods and Applications in Casino Gaming</td>
<td>Develops the techniques and methods for computing the probabilities, expected values, and house percentages of casino games and analyzes the effects of changes in playing rules and payoff odds. Notes: Credit at the 500 level normally requires additional work.</td>
<td></td>
</tr>
<tr>
<td>HOA 571</td>
<td>3</td>
<td>Practicum in Hotel Education</td>
<td>Graduate credit may be obtained for courses designated 500 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 500 level normally requires additional work.</td>
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</tr>
<tr>
<td>HOA 574</td>
<td>3</td>
<td>Seminar in Hotel Research</td>
<td>For descriptions of 500-level courses, please consult the current Undergraduate Catalog where they are listed as 400-level courses. Notes: Credit at the 500 level usually requires additional work.</td>
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<tr>
<td>HOA 587</td>
<td>3</td>
<td>Association Management</td>
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<tr>
<td>HOA 703</td>
<td>3</td>
<td>Human Resources Management in the Hospitality Industry</td>
<td>Examines the functions of human resource management through readings, cases and applied research with special attention to strategic HR alliances and developing trends.</td>
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<tr>
<td>HOA 705</td>
<td>3</td>
<td>Financial Analysis for the Service Industries</td>
<td>Problems and cases in applying accounting and financial information to executive decision making in the hospitality industry. Prerequisites: Adequate preparation in accounting.</td>
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</tr>
<tr>
<td>HOA 711</td>
<td>3</td>
<td>Laws of Innkeeping and Food Service</td>
<td>Examines through case studies and discussion the modern application of the laws of innkeeping using a historical perspective.</td>
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</tr>
<tr>
<td>HOA 716</td>
<td>3</td>
<td>Principles and Practices in Hotel Management</td>
<td>Examination of the mechanisms and techniques employed in the management of hotel/motel companies. Comparisons, case studies, and selected topics focus on equity structures, operations, marketing, and systems for a variety of public and private operations.</td>
<td></td>
</tr>
<tr>
<td>HOA 717</td>
<td>3</td>
<td>Principles and Practices in Convention and Meetings Management</td>
<td>Examination of the mechanisms and techniques employed in the management of convention and meeting industries. Comparisons, case studies, and selected topics focus on equity structures, operations, marketing, and systems for a variety of convention and meetings management issues.</td>
<td></td>
</tr>
<tr>
<td>HOA 718</td>
<td>3</td>
<td>Principles of Casino and Gaming Management</td>
<td>Examination of the mechanisms and techniques employed in the management of casino companies. Comparisons, case studies and selected topics focus on organization and department policies, production processes, manpower development, scheduling, and marketing for a variety of operating systems. Prerequisites: Consent of instructor</td>
<td></td>
</tr>
<tr>
<td>HOA 720</td>
<td>3</td>
<td>Principles and Practices in Food Service Management</td>
<td>Examination of the mechanisms and techniques employed in the management of food service companies. Comparisons, case studies, and selected topics focus on organization and department policies, production processes, manpower development, scheduling, and marketing for a variety of operating systems.</td>
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</tr>
</tbody>
</table>
topics focus on equity structures, operations, multiunits, marketing, and systems for a variety of public and private operations. **Prerequisites:** HOA 461 or equivalent.

**HOA 721**  
Credits 3  
**Issues in Women's Nutrition**  
Advanced discussion of how nutrition affects the physical and mental health of women throughout the life cycle and how to evaluate the validity of nutrition research as it relates to the needs of women rather than the general population.

**HOA 725**  
Credits 3  
**Information Technology in the Hospitality Industry**  
Examines the current level of technology use, explores the potential uses of existing technology, and discusses new technologies in the hospitality industry. **Prerequisites:** Consent of instructor.

**HOA 730**  
Credits 3  
**Statistical Analysis for Hospitality**  
Introduction to the use of statistical techniques with emphasis on applications for the hospitality industry.

**HOA 731**  
Credits 3  
**Operational Analysis in Hospitality Management**  
Research design, operations analysis, and the application of analytical models for the hotel and food service industry. **Prerequisites:** HOA 730

**HOA 735**  
Credits 3  
**Research Methodology**  
Examination of research methods including: the scientific method, literature review, sampling, statistics, research design, and analytical technique. **Notes:** If you are following the thesis option, you must take 3 credits of HOA 799 in conjunction with this class. **Prerequisites:** Graduate standing.

**HOA 738**  
Credits 3  
**Database Marketing for Hospitality and Tourism**  
Provides students with a working knowledge of database marketing in the hospitality and tourism industries. Database marketing is an information-driven process of compiling detailed information about customers, leads, and prospects and using that information to segment and target individual customers with appropriate sales-oriented materials.

**HOA 739**  
Credits 3  
**Psychology of Hospitality Marketing**  
Research in neurology, biology, and cognitive science is changing the way researchers approach how people think and behave. This class introduces students to new ways of viewing cognition and to help graduate students apply these new views as they develop their own research programs.

**HOA 740**  
Credits 3  
**Marketing Systems**  
Development of marketing and advertising systems for hospitality industries based on both the need to create new markets and the need to respond to significant shifts in social and economic patterns.

**HOA 741**  
Credits 3  
**Dynamics of Tourism**  
Examines major components of international and domestic tourism systems, including socio-economic effects. Legal and environmental problems, and managerial and planning functions.

**HOA 742**  
Credits 3  
**Customer Development Strategies for the Casino and Gaming Industry**  
Analyzing marketing and promotional strategies utilized by the casino industry and developing understanding of valutative techniques that facilitate managerial decision making concerning these strategies. **Prerequisites:** HOA 718 or consent of instructor.

**HOA 743**  
Credits 3  
**Professional Training Applications**  
Prepares students to plan, create, and conduct management and employee development programs. Process of learning essentials of training and presentation skill and management concepts. **Notes:** Students work with industry professionals.

**HOA 744**  
Credits 3  
**Online Training and Development**  
Concepts, principles, and techniques of online training. Emphasizes transfer of knowledge acquisition via online learning. Development of online training programs.

**HOA 745**  
Credits 3  
**Human Dynamics and Organizational Leadership**  
Provides students with knowledge, skills and attitudes necessary to undertake leadership responsibilities in complex organizations. Applies concepts and methodologies from social and behavioral sciences in the analysis of leadership behavior in diverse organizational and community
settings.

HOA 751 Credits 3
Hospitality Service Management
Examines service marketing and management concepts relevant to the hospitality industry and explores how these concepts can be applied to service delivery systems in the hospitality industry.

HOA 756 Credits 1
Culinary Arts Instruction
Practical methods for improving culinary curriculum and instruction. Methods of instruction for culinary theory, cooking methods, mise en place, food service sanitation, menu development, culinary math, and food and beverage trends.

HOA 757 Credits 1
Restaurant Management Instruction
Practical methods for introducing restaurant management skills into the curriculum. Methods for instruction of food service purchasing and purchasing formulas, dining room service techniques, managing service, suggestive selling, advanced culinary techniques, and revenue management. Prerequisites: HOA 756

HOA 758 Credits 1
Advanced Culinary Instructional Techniques
Methods for introducing advanced culinary techniques into the curriculum. Methods for instruction of baking pastries and cakes, use of baking equipment, basic garde manger and food presentation skills. Prerequisites: HOA 757

HOA 759 Credits 1
Advanced Food Service Management Instruction
Practical methods for introducing advanced food service management into the curriculum. Capstone course for the food service management instructional series. Organization, design, and management of the different styles of restaurant operations. Prerequisites: HOA 758

HOA 760 Credits 3
Research Seminar in Hotel Administration
Student solutions to situation incidents and case studies in the lodging segment of the hospitality industry. Alternate semesters treat different topics. Notes: May be repeated once with consent of advisor and instructor. Prerequisites: Six graduate credits in hotel administration.

HOA 761 Credits 3
Research Seminar in Food Service Administration
Student solutions to incidents and case studies in the food segment of the hospitality industry. Alternate semesters treat different topics. Notes: May be repeated once with consent of advisor and instructor. Prerequisites: Six graduate credits in hotel administration.

HOA 763 Credits 3
Research Seminar In Casino and Gaming Management
Student solutions to situations, incidents and case studies in the casino segment of the hospitality industry. Alternate semesters treat different topics. Notes: May be repeated once with consent of advisor and instructor. Prerequisites: Six graduate credits in hotel administration including HOA 718.

HOA 764 Credits 3
Research Seminar in Convention Management
Designed around student solutions to situations, incidents, and case studies in convention, meeting, and exhibition management. Comprehensive and application of research to practical and theoretical issues in convention management will be emphasized. Alternate semesters treat different topics. Prerequisites: Six graduate credits in hotel administration.

HOA 775 Credits 3
Seminar in Hospitality Finance
Analysis and application of financial theories to hospitality firms and industry. Notes: May be repeated to a maximum of six credits. Prerequisites: HOA 705, FIN 701 or equivalent.

HOA 777 Credits 3
Critical Issues in Hospitality Management
Provides the opportunity to identify, explore, discuss, and analyze current critical issues and events important to the hospitality industry. Students communicate in research and writing the essence of a critical issue and prepare a verbal presentation to communicate a critical issue. Notes: May be repeated to a maximum of six credits.

HOA 781 Credits 1 – 3
Independent Study and Research
Consultation course consisting of individual student effort under guidance of the instructor. Students assigned to or request assignment to specific problems in hospitality management on the basis of interest and preparation. Notes: May be repeated to a maximum of six credits. Prerequisites: Consent of instructor and graduate program director.

**HOA 782**  
Credits 3  
**Advanced Independent Study and Research**  
Consultation course consisting of individual student effort under guidance of the instructor. Students conduct independent research in their major area or work on the analysis of a problem for a hospitality organization. Prerequisites: Doctoral student.

**HOA 783**  
Credits 1 – 3  
**Internship**  
Field experience in a variety of hospitality related industries that focus on management or application of specific skills within a discipline. Must be consistent with the student's area of specialization and conducted under the guidance of a graduate faculty member. Notes: May be repeated to a maximum of six credits. Prerequisites: Consent of instructor and graduate program director.

**HOA 788**  
Credits 3  
**Professional Paper**  
Professional paper whose contents serve as the focus for the final oral examination. Notes: May be enlarged in scope and purpose for thesis credit. 3 credits.

**HOA 789**  
Credits 3 – 6  
**Thesis**  
Students may enroll in 3 credits per semester. Notes: A total of six credits are required for the thesis. Grading: S/F grading only. Prerequisites: HOA 735

**HOA 790**  
Credits 1 – 6  
**Special Topics in Hospitality Management**  
Eclectic approach to special problem areas of current interest employing individual and group research. Notes: May be repeated once with consent of advisor and instructor. Prerequisites: Six graduate credits in hotel administration.

**HOA 794**  
Credits 1  
**Issues and Trends for Hospitality Educators**

Explores issues and trends in hospitality education. Notes: May be repeated to a maximum of three credits. Prerequisites: Doctoral student.

**HOA 795**  
Credits 3  
**Research Seminar in Hospitality Education**  
Exploration of problems related to programs and techniques of teaching in food service and lodging education, with emphasis upon the means of improving curriculum and instruction. Notes: May be repeated once with consent of advisor and instructor. Prerequisites: Six graduate credits in hotel administration.

**HOA 796**  
Credits 3  
**Advanced Research Methodology**  
Fundamental principles of multivariate data analysis, including the mathematics behind the statistical techniques studied. Examination of quantitative research methods including sample size determination, validity, reliability and detection and handling of outliers. Prerequisites: EPY 722

**HOA 797**  
Credits 3  
**Philosophy of Science in Hospitality Research**  
Exploration of the philosophical and sociological context of research, including different epistemologies, ontologies, and images of human nature and their influence on conceptualizing and designing research, collecting and understanding data, and disseminating findings. Implications and consequences of alternative approaches and perspectives of inquiry examined.

**HOA 798**  
Credits 3  
**Readings in Hospitality Management**  
Provides students with a knowledge and understanding of important research in their area of interest. Prerequisites: Doctoral student or consent of instructor.

**HOA 799**  
Credits 3 – 12  
**Dissertation**  
Dissertation Research. Notes: 3-12 credits in three-credit increments. Grading: S/F grading only. Prerequisites: Graduate standing in Ph.D. program and consent of advisor.

**MHA 538**  
Credits 3  
**Fundamentals of Casino Operations**  
Provides students with basic casino table games and slot department management operational procedures. It shows the relationship between these departments and other hotel/casino departments. By the end of this
course, students will understand state of the art casino operations management methods.

MHA 603  Credits 3  
**Human Resources and Behavior in the Hospitality Industry**
Examines the functions of human resource management through readings, cases and applied research with special attention to strategic HR alliances and developing trends.

MHA 604  Credits 3  
**Hospitality Organizational Behavior Issues**
This course focuses on developing management skills through the study and application of theories of human behavior, particularly in service organizations. Areas addressed include: working with/through others, communication, coaching and counseling, providing feedback, goal setting, stress management, creative problem solving, motivation, power, conflict management, group dynamics and developing effective teams.

MHA 605  Credits 3  
**Financial Analysis for the Service Industries**
Problems and cases in applying accounting and financial information to executive decision making in the hospitality industry.

MHA 606  Credits 3  
**Hospitality Revenue Management**
This course deals with the theory and practice of operational and strategic revenue management policy and problems in the hospitality industry. It briefly examines the critical areas of yield management and revenue maximization in the context of hospitality and tourism industry. Emphasis is placed upon current issues in revenue management systems.

MHA 607  Credits 3  
**Hospitality Industry Cost Control**
Course examines: types and nature of costs in hotels and restaurants, the role of cost control in gaining competitive advantage, the application of food and beverage cost control methods, cost forecasting approaches, Cost Volume Profit analyses, Activity Based Cost, and an introduction to energy and utility cost control.

MHA 608  Credits 3  
**Laws of Innkeeping and Food Service**
Examines through case studies and discussion the modern application of the laws of innkeeping using a historical perspective.

MHA 609  Credits 3  
**Principles and Practices in Hospitality Management**
Examination of the management techniques employed in hospitality companies. Comparisons, case studies, and selected topics focus on management systems for a variety of public and private operations.

MHA 610  Credits 3  
**Principles and Practices in Convention and Meetings Management**
Examination of the mechanisms and techniques employed in the management of convention and meeting industries. Comparisons, case studies, and selected topics focus on equity structures, operations, marketing, and systems for a variety of convention and meetings management issues.

MHA 611  Credits 3  
**Principles of Casino and Gaming Management**
Examination of the mechanisms and techniques employed in the management of casino companies. Comparisons, case studies and selected topics focus on organization and department policies, production processes, manpower development, scheduling, and marketing for a variety of operating systems.

MHA 612  Credits 3  
**Principles and Practices in Food Service Management**
Examination of the mechanisms and techniques employed in the management of food service companies. Comparisons, case studies, and selected topics focus on equity structures, operations, multiunits, marketing, and systems for a variety of public and private operations.

MHA 613  Credits 3  
**Information Technology in the Hospitality Industry**
Examines the current level of technology use, explores the potential uses of existing technology, and discusses new technologies in the hospitality
industry.

MHA 626  Credits 3  
Sustainability in the Hospitality Industry  
An examination of sustainability practices in hotels, restaurants, and other hospitality facilities. Topics covered include material use, waste reduction, and recycling; water conservation; energy management; site selection and green building design, and indoor environmental quality issues. A special emphasis is placed on certifications and certifying organizations.

MHA 631  Credits 3  
Operational Analysis in Hospitality Management  
The following courses were not found in the supplied content but, were listed in program requirements. Please review and provide us, if possible, with the correct information.

MHA 635  Credits 3  
Research Methodology  
Examination of research methods including the scientific method, literature review, sampling, statistics, research design and analytical technique.  
Prerequisites: Six or more credits in the MHA program.

MHA 638*  Credits 3  
Database Marketing for Hospitality and Tourism  
Provides students with a working knowledge of database marketing in the hospitality and tourism industries. Database marketing is an information-driven process of compiling detailed information about customers, leads, and prospects and using that information to segment and target individual customers with appropriate sales-oriented materials.

MHA 640  Credits 3  
Marketing Systems  
Development of marketing and advertising systems for hospitality industries based on both the need to create new markets and the need to respond to significant shifts in social and economic patterns.

MHA 641  Credits 3  
Dynamics of Tourism  
Examines major components of international and domestic tourism systems, including socio-economic effects. Legal and environmental problems, and managerial and planning functions.

MHA 642  Credits 3  
Customer Development Strategies for Casino & Gaming  
Analyzing marketing and promotional strategies utilized by the casino industry and developing understanding of valutative techniques that facilitate managerial decision making concerning these strategies.

MHA 644  Credits 3  
Online Training and Development  
Concepts, principles, and techniques of online training. Emphasizes transfer of knowledge acquisition via online learning. Development of online training programs.

MHA 645  Credits 3  
Human Dynamics and Organizational Leadership  
Provides students with knowledge, skills and attitudes necessary to undertake leadership responsibilities in complex organizations. Applies concepts and methodologies from social and behavioral sciences in the analysis of leadership behavior in diverse organizational and community settings.

MHA 646  Credits 3  
Essentials of Negotiation in the Hospitality Industry  
This course explores the major concepts and theories of the psychology of bargaining and negotiation, and the dynamics of interpersonal and inter-group conflict and its resolution. Course concepts will be applied to situations within the hospitality industry.

MHA 647  Credits 3  
Intercultural Communication in the Hospitality Industry  
Explores communication, culture, and social dynamics internal and external to hospitality organizations within an international context.

MHA 651  Credits 3  
Hospitality Service Management
Examines service marketing and management concepts relevant to the hospitality industry and explores how these concepts can be applied to service delivery systems in the hospitality industry.

MHA 653  Event Management  Credits 3

MHA 654  Credits 2-3
Risk Management: Safety and Security in Hospitality and Tourism
MHA 655  Credits 3
Meeting and Convention Management

MHA 660  Credits 3
Research Seminar in Hotel Administration
Student solutions to situation incidents and case studies in the lodging segment of the hospitality industry. Alternate semesters treat different topics.

MHA 661  Credits 3
Research Seminar in Food Service Administration
Student solutions to incidents and case studies in the food segment of the hospitality industry. Alternate semesters treat different topics.

MHA 662  Credits 3
Seminar in Hospitality Education
This course covers: overview of the history, organization, and administration of higher education and hospitality management programs, differences between types of degree programs and sources of funding, improving curriculum and instruction for both classroom and distance learning. The course will also investigate the role of faculty members in non-instructional activities.

MHA 663  Credits 3
Research Seminar in Casino and Gaming Management
Student solutions to situations, incidents and case studies in the casino segment of the hospitality industry. Alternate semesters treat different topics.

MHA 675  Credits 3
Seminar in Hospitality Finance
Analysis and application of financial theories to hospitality firms and industry.

MHA 681  Credits 1-3

Independent Study and Research
Consultation course consisting of individual student effort under guidance of the instructor. Students assigned to or request assignment to specific problems in hospitality management on the basis of interest and preparation.

MHA 688  Credits 3
Professional Paper
Professional paper whose contents serve as the focus for the final oral examination.
Prerequisites: MHA 635

MHA 690  Credits 3
Special Topics in Hospitality Management
Eclectic approach to special problem areas of current interest employing individual and group research.
Notes: May be repeated multiple times.

SLS 550  Credits 3
Administration of Recreation and Leisure Services
Comprehensive examination of the philosophical, legal, financial, and administrative foundations necessary for management personnel in a public, not-for-profit or commercial leisure service organization.

SLS 700  Credits 3
Special Problems in Sport and Leisure
Specialized instruction and/or research designed to develop depth in understanding a current problem in sport and leisure. Notes: May be repeated to a maximum of six credits. Prerequisites: Consent of instructor.

SLS 701  Credits 1 – 3
Independent Study
Independent study of a selected topic in sport or leisure service management or leisure behavior.
Notes: May be repeated to a maximum of six credits. Prerequisites: Consent of instructor.

SLS 702  Credits 3
Management in Sport and Leisure Service Organizations
Utilizes management theory in conjunction with theory of sport and leisure behavior to develop a philosophy of administration applicable to sport and leisure service organizations.

SLS 703  Credits 3
Management Analysis of Sport and Leisure Service Organizations
Analysis of how the financial resources needed to operate sport and leisure service facilities and programs are acquired and marshaled to realize organizational goals. Marketing strategies and revenue source specific to sport and leisure services analyzed and discussed. **Prerequisites:** SLS 702

**SLS 704**  
**Credits 3**  
**Management Internship**  
Structured management internship in a sport or leisure service organization which focuses on specific administrative functions under the supervision of an agency manager and a university advisor. **Prerequisites:** SLS 703 and approval of student’s advisor.

**SLS 716**  
**Credits 3**  
**Social Psychology of Sport and Leisure**  
Introduces and examines the theories of sport and leisure behavior from a social psychological perspective. Issues and outcomes of involvement in sport and leisure activities for the individual as well as organized groups.

**SLS 717**  
**Credits 3**  
**Law and Liability in Sport and Leisure Services**  
Explores the legal principles and rules of law affecting the administration of recreation, sports and athletic programs. Emphasis on risk management theory, safety principles, insurance concepts and liability issues. Litigation trends identified and procedures outlined to minimize legal risks.

**SLS 718**  
**Credits 3**  
**Programming for Sport and Leisure Service Organizations**  
Theoretical and conceptual aspects of comprehensive programming for sport and leisure service organizations. Includes program development theories, program design concepts, advertising, promotion and evaluation procedures.

**SLS 748**  
**Credits 3**  
**Professional Paper**  
Under the direction of a faculty advisor, the student develops a written treatise detailing the application of a principle or theory to the solution of a current problem of professional practice in the management of sport and leisure service. **Grading:** S/F grading only. **Prerequisites:** Consent of instructor.

**SLS 749**  
**Credits 3**  
**Thesis**  
Under the direction of a faculty advisor, students develop a written treatise detailing their methodical investigation and exposition of a theory or principle related to the management of sport and leisure service. **Notes:** May be repeated to a maximum of six credits. **Grading:** S/F grading only. **Prerequisites:** Consent of instructor.
William S. Boyd School of Law

The William S. Boyd School of Law, which commenced classes in August 1998, is the first state-supported law school in Nevada history, and the only law school in the state. The school offers three juris doctor degree programs: a part-time evening program, a part-time day program, and a full-time, day program and three dual degree programs: a J.D./M.B.A., J.D./M.S.W. and J.D./Ph.D. in Education. These programs are designed to train ethical and effective lawyers and leaders for Nevada and for the legal profession. The curriculum is designed to stress professionalism, community service, and dispute avoidance/dispute resolution through a combination of skills training and traditional pedagogy and exposure to different public policy players and sources of law. More information is available on the Boyd School of Law website: http://www.law.unlv.edu.

John Valery White, Dean

Associate Deans
Mootz, Francis J.

Associate Dean and Graduate Coordinator
Smith, Christine
(1998) Associate Dean for Administration and Student Affairs; B.S., Arizona State University; M.Ed., Northern Arizona University.

Faculty

Anderson, Rachel J.
(2007), Associate Professor; M.A., Stanford University; J.D., University of California, Berkeley.

Bartram, Ian C.
(2011) Associate Professor; B.A., Hamilton College; J.D., Vermont Law School; LL.M., Yale Law School.

Bayer, Peter Brandon
(2001) Lawyering Process Professor; B.A., Hamilton College; J.D., New York University School of Law; M.A., New York University; LL.M., Harvard University.

Berger, Linda
(2011) Professor; B.S., University of Colorado-Boulder; J.D., Case Western Reserve University.

Berkheiser, Mary E.
(1998) Professor; B.A., University of Arizona; J.D., James E. Rogers College of Law, University of Arizona.

Birdsong, Bret C.
(2000) Professor; B.A., Princeton University; J.D., University of California, Hastings College of the Law.

Blakesley, Christopher L.

Brown, Richard,
(1998) Professor Emeritus; B.A., University of California, Los Angeles; J.D., Indiana University School of Law; M.L.L., University of Washington.

Cammett, Ann
(2008) Associate Professor; B.F.A., School of Visual Arts; J.D., City University of New York School of Law; LL.M., Georgetown University Law Center.
Carr, Jennifer  
(2009) Director of Academic Success Program; B.A., University of Nevada, Reno; J.D., University of Nevada, Las Vegas.

Correales, Robert I.  
(1998) Associate Professor; B.A., University of North Texas; J.D., University of Kansas School of Law; LL.M., Georgetown University Law Center.

Edwards, Linda  
(2009) Professor; B.A., Florida State University; J.D., University of Tennesse College of Law.

Garcia, Ruben J.  
(2011) Professor; A.B., Stanford University; J.D., University of California, Los Angeles; LL.M., University of Wisconsin Law School.

Geer, Martin  
(2001) Externship Director; B.A., University of Michigan; J.D., Wayne State University; LL.M., Columbia University.

Gordon, Sara G.  
(2007) Lawyering Process Professor; B.A., Pitzer College; J.D., James E. Rogers College of Law, University of Arizona.

Grant, Douglas L.  
(1999) Professor Emeritus; B.A., University of Iowa; J.D., University of Colorado School of Law.

Henderson, Lynne  

Kagan, Michael  
(2011) Associate Professor; B.A., Northwestern University; J.D., University of Michigan.

Kindred, Kay  
(1999) Ralph Denton Professor; A.B., Duke University; J.D., Columbia University School of Law.

Kruse, Katherine R.  
(2002) Professor; B.A., Oberlin College; M.A., University of Wisconsin-Madison; J.D., University of Wisconsin Law School.

LaFrance, Mary  
(1999) IGT Professor; A.B., Bryn Mawr College; M.A., J.D., Duke University.

Lazos, Sylvia  
(2003) Justice Myron Leavitt Professor; B.A., St. Mary’s University; M.A., St. Mary’s University; J.D., University of Michigan Law School.

MacDowell, Elizabeth  
(2010) Associate Professor; B.A., California State University, Hayward; J.D., University of California, Berkeley.

Marouf, Fatma  
(2010) Associate Professor; B.A., Yale University; J.D., Harvard Law School.

McAffee, Thomas B.  
(1998) William S. Boyd Professor; B.S., University of Utah; J.D., University of Utah College of Law.

McGinley, Ann C.  

Morgan, Richard J.  
(1997) Dean Emeritus; B.A., University of California, Berkeley; J.D., University of California, Los Angeles.

Nathanson, Rebecca  
(2003) James E. Rogers Professor of Education and Law, Associate Professor, Joint Appointment with Department of Educational Psychology; B.A., University of California, Los Angeles; M.A., University of California, Santa Barbara; Ph.D., University of California, Santa Barbara.

Patterson, Raymond W.  
(2005) Associate Director of the Saltman Center for Conflict Resolution; B.S., State University of New York, Stony Brook; M.A., Adelphi University; J.D., Yeshiva
University, Benjamin Cardozo School of Law.

Pindell, Ngai L.,

Pollman, Terrill
(1998) Professor and Director of the Lawyering Process Program; B.A., J.D., University of Arizona.

Price, Jeanne
(2008), Associate Professor and Director of the Wiener-Rogers Law Library; B.A., Yale University; J.D., University of Texas; M.L.S., University of Maryland.

Rapoport, Nancy
(2007) Gordon and Silver, Ltd. Professor; B.A., Rice University; J.D. Stanford University.

Rolnick, Addie C.
(2011) Associate Professor; B.A., Oberlin College; J.D., M.A., University of California, Los Angeles.

Rowley, Keith A.
(2001) William S. Boyd Professor; B.A., Baylor University; M.P.P, Harvard University; J.D., University of Texas Law School.

Scharf, Rebecca

Shoben, Elaine
(2005) Judge Jack and Lulu Lehman Professor, A.B., Barnard College; J.D., University of California Hastings College of the Law.

Stempel, Jeffrey W.

Sternlight, Jean R.
(2003) Michael and Sonya Saltman Professor and Director of the Saltman Center for Conflict Resolution; B.A., Swarthmore College; J.D., Harvard University Law School.

Tanenhaus, David.

Torino, Stacey
(2010) Professor; B.A., Tulane University; J.D., University of Houston; Ph.D., University of Texas.

Traum, Anne
(2009) Associate Professor; A.B., Brown University; J.D., University of California, Hastings College of Law.

Trimble, Marketa
(2010) Associate Professor; Mgr., Law School of Charles University; JUDr., Ph.D., Law School of Charles University; J.S.M., Stanford Law School; J.D, Standford Law School.

Whitney, Jean M.

The mission of the William S. Boyd School of Law is to prepare students for the competent and ethical practice of law. At the same time, the Boyd School of Law recognizes that the skills and knowledge acquired in the juris doctor program may be transferred easily to other fields of endeavor and that many students seek legal training for the value it may have in pursuits other than the practice of law. The Boyd School of Law is dedicated to preserving, transmitting, and advancing the current state of legal knowledge, to developing programs which meet the changing needs of society, and to encouraging its graduates to apply the knowledge they gain for their own personal development and for the good of society. The curriculum responds to the needs of the students as well as the needs of the profession. In the early stages of legal education, the curriculum stresses professionalism, community service, and the
roles and importance of lawyers in our society, all in an effort to acquaint students with the nature and nobility of the legal profession and with the opportunity that lawyers have to improve the society in which they live. Throughout the curriculum, emphasis is placed on writing, professionalism and community service. In our clinical and externship programs, the law school provides students with the opportunity of a substantial lawyering experience under close supervision.

Admission Requirements and Selecting Applicants

The Boyd School of Law seeks to enroll an accomplished and diverse group of women and men who will contribute to the enrichment of the school’s educational program and to the community and the profession after graduation. We seek students who have demonstrated significant accomplishments in their lives, for example by achieving distinguished academic records as undergraduate or graduate students, by engaging successfully in important and demanding careers, by providing significant service to their communities or by meeting challenges associated with the applicant’s race, ethnicity, gender, economic status, or disability. The faculty believe that the law school can and should have a student body that is both academically well-qualified and diverse. The presence in the school of students who have diverse backgrounds, attitudes, and interests contributes to the breadth and quality of the classroom and non-classroom dialogue that is a critical element to legal education.

In assessing applicants, the Admissions Committee looks to:

1. **Academic Capability.** To assess an applicant’s undergraduate academic capability, the committee considers such factors as the applicant’s undergraduate GPA, the trend of college grades, the difficulty of the applicant’s course of undergraduate study, the quality and grading pattern of the undergraduate institution, the extent of work or other activities undertaken while in college, the date of the undergraduate degree, graduate studies, and performance on the Law School Admissions Test.

2. **Nonacademic Accomplishments.** The committee will consider evidence of significant accomplishments in extracurricular activities, employment, military service, and community service.

3. **Individual Background.** The committee will consider the applicant’s state of residency, cultural, ethnic, racial and socioeconomic background, and evidence of significant handicaps overcome by the applicant. The committee will also consider any history of criminality or academic misconduct.

Applicants must:

1. have earned an undergraduate degree from an accredited four-year college or university;
2. have taken the Law School Admissions Test (LSAT);
3. register for and maintain an up-to-date file with the Law School Data Assembly Service. It is the responsibility of applicants to ensure that an official transcript from each institution they have attended is sent by that institution to LSDAS. Please do not have transcripts sent directly to the Boyd School of Law.

For additional information regarding admissions and law school programs, please see the law school website at www.law.unlv.edu or call the Dean for Student Advancement or Director of Admissions at (702) 895-3671.

Juris Doctor Dual Programs

The William S. Boyd School of Law and the UNLV Colleges of Business, Education, and Urban Affairs offer the following Juris Doctor dual degree programs allowing students to be admitted to both programs to pursue the two degrees concurrently:
Juris Doctor Dual Programs

The William S. Boyd School of Law and the UNLV Colleges of Business, Education, and Urban Affairs offer the following Juris Doctor dual degree programs allowing students to be admitted to both programs to pursue the two degrees concurrently:

- Juris Doctor/Master of Business Administration (JD/MBA)
- Juris Doctor/Master of Social Work (JD/MSW)
- Juris Doctor/Ph.D. in Education (JD/PhD)

Juris Doctor/Master of Business Administration (JD/MBA)

Pursued individually, the JD requires the completion of 89 credit hours and the MBA requires the completion of 48 credit hours. The dual JD/MBA requires the completion of 80 law credit hours and 33 business credit hours, as 15 credit hours of law courses are accepted toward the MBA and nine credit hours of business courses are accepted toward the JD.

Applicants to the JD/MBA program must apply for, and gain admission to, both the Boyd School of Law JD program and to the Lee Business School MBA program, respectively. For information on MBA program application procedures, interested individuals should contact the Lee Business School-MBA Program at (702) 895-3655 or visit their website at business.unlv.edu. When seeking admission to each of the two schools, applicants are asked to submit with each application a statement indicating their wish to pursue the dual JD/MBA degree.

While applications from current students in either program will be considered, students normally should secure admission to each program upon entering the university. However, petitions for admission to the dual JD/MBA program from students at more advanced stages in either program will be considered.

Under American Bar Association standards, the Boyd School of Law cannot award credit for any course work taken prior to matriculation into the JD program. JD/MBA candidates therefore normally must enroll at the Boyd School of Law and complete one year of study before taking any MBA courses to be applied to the JD degree.

Business Administration Courses: 33 Total Credits

Required Law Courses: 44 Total Credits*

* First-year required courses are prerequisites to all upper-level law courses.

LAW 503 - Contracts
LAW 505 - Lawyering Process I
LAW 511 - Civil Procedure/Alternative Dispute Resolution I
LAW 515 - Lawyering Process II
LAW 517 - Constitutional Law I
LAW 523 - Torts
LAW 525 - Property II
LAW 531 - Civil Procedure and Alternative Dispute Resolution II
LAW 613 - Professional Responsibility
LAW 616 - Criminal Law
LAW 624 - Constitutional Law II

Third Semester Lawyering Process Course

Upper-level writing-intensive course (one of various courses)
Directed Electives at Law School: 18 Total Credits*

LAW 603 - Federal Income Tax
LAW 605 - Basic Bankruptcy
LAW 608 - Insurance Law
LAW 614 - Real Estate Finance
LAW 615 - Secured Transactions
LAW 618 - Employment Discrimination Law
LAW 619 - Employment Law
LAW 621 - Intellectual Property I
LAW 622 - Introduction to Gaming Law
LAW 626 - Business Organizations I
LAW 628 - Payment Systems
LAW 629 - Intellectual Property II
LAW 637 - Sales and Leases
LAW 640 - Labor Law
LAW 646 - Cyberlaw
LAW 649 - Taxation of Business Entities
LAW 656 - Business Organizations II
LAW 657 - Antitrust
LAW 660 - Banking Law
LAW 661 - Federal Taxation
LAW 663 - Advanced Issues in Tax
LAW 665 - Health Care Organization and Finance
LAW 672 - International Business Transactions
LAW 723 - Economics and the Law
LAW 725 - Gaming Policy Seminar
LAW 730 - Business Bankruptcy
LAW 733 - Advanced Intellectual Property Seminar
LAW 735 - U.S. Taxation of International Transactions
LAW 736 - Securities Regulation

Free Electives at Law School:

Students in the JD/MBA program must complete 18 other credits of “free” electives at the law school. These free electives may come from the list of directed electives or from any other elective offered at the law school. Students anticipating practice in a certain area are encouraged to refer to the Course Planning Guide in the Law School Student Policy Handbook for suggested course sequences.

Juris Doctor/Master of Social Work (JD/MSW)

Pursued individually, the JD requires the completion of 89 credit hours and the MSW requires the completion of 60 credit hours. The dual MSW/JD degree would require the completion of 80 law credit hours and 51 social work credit hours, as 9 hours of law courses are accepted toward the MSW and 9 hours of social work courses are accepted toward the JD.

Applicants to the JD/MSW degree program must apply for, and gain admission to, both the Boyd School of Law JD program and to the School of Social Work MSW program, respectively. Admission requirements are the same as those listed under the regular JD and MSW programs.

While applications from current students in either program will be considered, students normally should seek and satisfy admission to enter both programs upon entering the university. However, petitions
requesting admission to the dual JD/MSW program from students at more advanced stages in either program will be considered.

Those interested are encouraged to submit a request for permission to participate in the program, along with applications for admission, at the earliest possible time. Contact the William S. Boyd School of Law at (702) 895-2440 and the UNLV School of Social Work programs at (702) 895-3311 or http://socialwork.unlv.edu/ for further information on admissions requirements.

**Required Social Work Courses:** 51 credits

**Required Law Courses:** 44 credits*

First-year required courses are prerequisites to all upper-level law courses.

- LAW 503 - Contracts
- LAW 505 - Lawyering Process I
- LAW 511 - Civil Procedure/Alternative Dispute Resolution I
- LAW 515 - Lawyering Process II
- LAW 517 - Constitutional Law I
- LAW 521 - Property I
- LAW 523 - Torts
- LAW 525 - Property II
- LAW 531 - Civil Procedure and Alternative Dispute Resolution II
- LAW 616 - Criminal Law
- LAW 624 - Constitutional Law II
- Third Semester Lawyering Process Course 3 credits

*Upper-level writing-intensive course (one of various courses)*

**Free Electives at Law School:** 24 credits

Students in the JD/MSW program must complete 24 other credits of “free” electives at the law school.

These free electives may come from the list of directed electives or from any other elective offered at the law school. Students anticipating practice in a certain area are encouraged to refer to the Course Planning Guide in the Law School Student Policy Handbook for suggested course sequences.

**MSW Electives:** 9 credits

- PUA 701 - Principles of Public Administration
- PUA 704 - Seminar in Fiscal Administration
- PUA 708 - Seminar in Public Personnel Administration
- SW 776 - Legal and Ethical Issues in Social Work
- SW 791 - Advanced Practice With Children
- SW 792 - Cross-Cutting Issues in Child Welfare
- SW 793 - Child Welfare Policy and Services
- SW 798 - Child Welfare Administration and Supervision

**Directed Electives at Law School:** 12 credits

Students in the JD/MSW program must successfully complete at least 12 credits from the following list.

- LAW 603 - Federal Income Tax
- LAW 604 - Administrative Law
- LAW 607 - Family Law
- LAW 617 - Disability Law
- LAW 618 - Employment Discrimination Law
- LAW 619 - Employment Law
- LAW 625 - Law and the American Indian
- LAW 626 - Business Organizations I
- LAW 633 - Land Use Regulation
- LAW 636 - Child, Parent and the State
### Juris Doctor/Doctor of Philosophy in Education (JD/PhD)

The William S. Boyd School of Law and the UNLV College of Education offer a dual Educational Psychology & Juris Doctor Dual Ph.D./J.D. degree program that allows students admitted to both programs to pursue the two degrees concurrently. Individuals seeking this dual degree will obtain a J.D. degree and a Ph.D. in one of the following:

- Educational Psychology (with an emphasis in Foundations or School Psychology)
- Higher Education Leadership
- Special Education

Pursued individually, the J.D. degree requires the completion of 89 credit hours and the Ph.D. degree requires the completion of a minimum of 67-72 (dependent upon program) credit hours. The J.D./Ph.D. degree would require the completion of 80 law credit hours and a minimum of 54-63 (dependent upon program) education credit hours, as 9 hours of education courses are accepted toward the J.D. degree and 9-18 (dependent upon program) hours of law courses are accepted toward the Ph.D. degree.

Applicants to the J.D./Ph.D. degree program must apply for, and gain admission to both the Boyd School of Law J.D. program and to the College of Education Ph.D. program, respectively. For more information on the College of Education Ph.D. program application procedures, interested individuals should contact the College of Education at (702) 895-3374 or visit education.unlv.edu. When seeking admission to each of the two schools, applicants are asked to submit with each application a statement indicating their wish to pursue the dual J.D./Ph.D.

While applications from current students in either program will be considered, students normally should secure admission to each program upon entering the
university. However, petitions requesting admission to the dual J.D./Ph.D. program from students at more advanced stages in either program will be considered.

Under American Bar Association standards, the Boyd School of Law cannot award credit for any coursework taken prior to matriculation into the J.D. program. J.D./Ph.D. candidates therefore normally must enroll at the Boyd School of Law and complete one year of study before taking any Ph.D. courses.

Required Law Courses: 44 Total Credits*

First-year required courses are prerequisites to all upper-level law courses.

LAW 503 - Contracts
LAW 505 - Lawyering Process I
LAW 511 - Civil Procedure/Alternative Dispute Resolution I
LAW 515 - Lawyering Process II
LAW 517 - Constitutional Law I
LAW 523 - Torts
LAW 525 - Property II
LAW 531 - Civil Procedure and Alternative Dispute Resolution II
LAW 613 - Professional Responsibility
LAW 616 - Criminal Law
LAW 624 - Constitutional Law II

Third Semester Lawyering Process Course

Upper-level writing-intensive course (one of various courses)

Directed Electives at Law School: 9 Total Credits

LAW 607 - Family Law
LAW 617 - Disability Law
LAW 618 - Employment Discrimination Law
LAW 638 - Education Law and Policy
LAW 644 - Juvenile Law
LAW 670 - Alternative Dispute Resolution Survey
LAW 715 - Mediation
LAW 719 - Negotiation
LAW 769 - Education Clinic
LAW 770 - Family Justice Clinic
LAW 771 - Juvenile Justice Clinic
LAW 773 - Government & Public Interest Externship
LAW 774 - Capital Defense Clinic
LAW 775 - Immigration Clinic
LAW 790 - Special Topics in Law

Free Electives at Law School: 27 credits

Students in the JD/Ph.D. program must complete 27 other credits of “free” electives at the law school. These “free” electives may come from the list of directed electives or from any other elective offered at the law school. Students anticipating practice in a certain area are encouraged to refer to the Course Planning Guide in the Law School Student Policy Handbook for suggested course sequences.

Curriculum: Educational Psychology Ph.D.

- Research Methods Core Courses 15
- Learning/Development Core Courses 10
- Ph.D. Emphasis Area Courses* 12
• Required Dissertation in Educational Psychology: 12
• Specialization Strand Core Courses
• Each specialization strand within the Ph.D. in Educational Psychology has a distinct set of core requirements.
• Foundations Strand Core Courses 18
• School Psychology Strand Core Courses 24
Ph.D. students are required to identify a special emphasis area in addition to the specialization strand coursework. For the JD/PhD program, this emphasis area will be comprised of 12 credits from the required law degree coursework.

Curriculum: Higher Education Ph.D.
• Required Core Courses 18
• Research Courses 12
• Higher Education Electives 9
• Dissertation in Higher Education Leadership 15

Curriculum: Special Education and Early Childhood Ph.D.
• Required Special Education Core Courses 26
• Required Education Research Courses 15
• Required Special Education Disability Studies Courses 10
• Required Special Education Leadership Courses 9
• Family Law 3
• Required Dissertation in Special Education 12

Juris Doctor J.D.

Degree Requirements

To receive the Juris Doctor degree, students admitted to the law school must complete at least 89 units of credit with an overall cumulative average of at least 2.30, complete all of the specific requirements for graduation, including the community service and writing requirements and all required courses.

For additional information regarding admissions and law school programs, please call the Dean for Student Advancement or Director of Admissions at (702) 895-3671. Complete admission and degree requirement explanations may also be found on the Boyd School of Law website.

LAW 502 Contracts I
Overview of basic contract law. Exploration of common law legal method and the structure of Article 2 of the Uniform Commercial Code in the context of issues of contract formation. Prerequisites: Majors only, consent of instructor.

LAW 503 Contracts
Overview of basic contract law. Exploration of common law legal method and the structure of Article II of the Uniform Commercial Code in the context of issues of contract formation and interpretation. Prerequisites: Majors only, consent of instructor.

LAW 505 Lawyering Process I
Students are introduced to basic legal research, interviewing skills, effective use of legal authorities in legal analysis and the conventions of predictive legal writing. The course is taught using readings, exercises, simulations, extensive individual feedback and conferences. Students will write several short assignments as well as longer office memos. Prerequisites: Majors only, consent of instructor.

LAW 511 Civil Procedure/Alternative Dispute Resolution I
Exploration of the nature and structure of dispute resolution systems, with a focus on formal adjudicatory procedure for civil lawsuits while exposing students to the spectrum and interrelation of dispute resolution systems. Topics covered include jurisdiction, venue, rules of procedure, choice of law. Prerequisites: Majors only, consent of instructor.

LAW 515 Lawyering Process II
Students continue to develop skills in legal research, analysis, reasoning and writing. Focuses on writing
persuasively as an advocate, using increasingly complex simulations requiring analysis of statutory and administrative law materials. Assignments include letters to clients and attorneys, a trial court memorandum and an appellate brief, staged to allow for extensive individual feedback and instruction, and an oral argument to a mock appellate court. 

**Prerequisites:** LAW 505, majors only; consent of instructor.

**LAW 517**  
*Constitutional Law I*  
Examines judicial review, congressional power under the Commerce, Taxing, and Spending Clauses and section five of the Fourteenth Amendment; substantive due process rights; the role of the states and national government under the Tenth and Eleventh Amendments; and Separation of Powers. 
**Prerequisites:** Majors only, consent of instructor.

**LAW 519**  
*Contracts II*  
Further exploration of Contracts I with an emphasis on interpretation of contracts. 
**Prerequisites:** Majors only, consent of instructor.

**LAW 521**  
*Property I*  
Acquisitions of property interest, estates in land and future interests, and landlord tenant. 
**Prerequisites:** Majors only, consent of instructor.

**LAW 523**  
*Torts*  
Law of civil injuries, including legal protection of personality, property and relational interests against physical, economic, and emotional harms. Emphasis on intentional torts, negligence and strict liability. 
**Prerequisites:** Majors only, consent of instructor.

**LAW 525**  
*Property II*  
Real estate transactions, easements and other servitudes, public land use regulation. 
**Notes:** May be taken to a maximum of three credits. 
**Prerequisites:** Majors only, consent of instructor.

**LAW 531**  
*Civil Procedure and Alternative Dispute Resolution II*  
Continuation of Civil Procedure and Alternative Dispute Resolution I. Topics covered include pretrial practice, pretrial dispositions, and court-imposed alternative dispute resolution mechanisms.

**LAW 602**  
*American Legal History*  
Examination of major issues in American legal history such as the role of lawyers in society and the role of law in developing the economy as well as the development of American legal institutions. 
**Prerequisites:** Majors only or completion of first-year law courses or consent of instructor.

**LAW 603**  
*Federal Income Tax*  
Overview of the code provisions governing the taxation of individual income and the basic concepts and legal doctrines which courts employ in implementing those provisions. 
**Prerequisites:** Majors only or completion of first-year law courses or consent of instructor.

**LAW 604**  
*Administrative Law*  
Examines the legal structure of federal and state government agencies; how they may be structured under the Constitution; how they issue and enforce regulations; and how they make decisions. 
**Prerequisites:** Majors only or completion of first-year law courses or consent of instructor.

**LAW 605**  
*Basic Bankruptcy*  
Reviews the basic elements of business and consumer bankruptcy under federal bankruptcy statutes. Emphasis on problem solving and ethical issues. 
**Prerequisites** 
Majors only or completion of first-year law courses or consent of instructor.

**LAW 606**  
*Evidence*  
Focuses on the Federal Rules of Evidence and the issues that arise out of their use. Provides understanding of the rules including both their theoretical basis and how they function in the courtroom. Addresses preparation and presentation of various kinds of evidence, including proof of writings; qualifications and examination of witnesses; privilege; opinion testimony; demonstrative, experimental, scientific evidence, determination of relevancy; application of the hearsay rule. 
**Prerequisites** 
Majors only or completion of first-year law courses or consent of instructor.
LAW 607 Credits 3
Family Law
Basic family law. Covers legal construction of the family and relationship between the state and the family, marriage, divorce, custody, and adoption.
Prerequisites: Majors only or completion of first-year law courses or consent of instructor.

LAW 608 Credits 3
Insurance Law
Overview of the theory and operation of insurance, including the marketing, underwriting, and claims process. Major forms of insurance surveyed with primary focus on issues of insurance policy construction and judicial resolution of recurring coverage issues.
Prerequisites: Majors only or completion of first-year law courses or consent of instructor.

LAW 609 Credits 1 – 3
Law and Literature
Study of real or functional depictions of lawyers and the legal system from a literary perspective to gain a new understanding of the law. Prerequisites: Majors only or completion of first-year law courses or consent of instructor.

LAW 610 Credits 3
Advanced Legal Analysis and Writing: Special Topics
Analysis and writing about complex legal problems. Interpretation of various authorities and use of various forms of legal reasoning, types of argument, and techniques for clear and effective writing. Prerequisites: LAW 505, LAW 515, majors only, consent of instructor.

LAW 611 Credits 2 – 3
Products Liability
Analyzes the substantive law, underlying theory and policy, and practice of products liability—liability for injuries by defective consumer products. Prerequisites: Majors only or completion of first-year law courses or consent of instructor.

LAW 613 Credits 3
Professional Responsibility
Examines the law governing lawyers, the rules that govern how members of the legal profession, including judges as well as lawyers, may or must behave. Sources of these rules are many—the Constitution, statutes, procedural, evidentiary and court rules, and rules of professional conduct. Prerequisites: Majors only or completion of first-year law courses or consent of instructor.

LAW 614 Credits 3
Real Estate Finance
Mortgages, deeds of trust, installment land contracts, construction financing, mechanics’ liens, sales and leasebacks. Prerequisites: Majors only or completion of first-year law courses or consent of instructor.

LAW 615 Credits 3
Secured Transactions
Covers Article 9 of the Uniform Commercial code with respect to taking security interests in personal property. Emphasis on interplay with real property security and bankruptcy, problem solving and ethical issues. Prerequisites: Majors only or completion of first-year law courses or consent of instructor.

LAW 616 Credits 3
Criminal Law
Introduction to criminal law with emphasis on principles of criminal liability. Prerequisites: Majors only or completion of first-year law courses or consent of instructor.

LAW 617 Credits 3
Disability Law
Examines the law of disability discrimination, focusing on the Americans with Disabilities Act of 1990 and other federal and state statutes, case law and regulations governing the civil rights of persons with disabilities to education, employment, public accommodations and housing. Prerequisites: Majors only or completion of first-year law courses or consent of instructor.

LAW 618 Credits 3
Employment Discrimination Law
Examines the law of employment discrimination, focusing on Title VII of the Civil Rights Act of 1964, the Civil Rights Act of 1991, the Age Discrimination Employment Act of 1967 and other federal and state statutes, case law and regulations protecting the civil rights of employees and job applicants. Prerequisites: Majors only or completion of first-year law courses or consent of instructor.
LAW 619  Credits 3  Employment Law  
Surveys the law of employment relations focusing on common law exceptions to the employment at will doctrine through public policy, individual contracts, handbooks, and tort doctrine. Examines just cause provisions of the Model Termination Act. Analyzes common law and statutory protections afforded to employee speech and employee privacy, and examines federal wages and hours legislation.  
**Prerequisites**: Majors only or completion of first-year law courses or consent of instructor.

LAW 620  Credits 3  Water Law  
Acquisition and exercise of private rights in water, public rights and environmental protection, water distribution organizations, interstate water allocation, and federal-state relations in water resource management.  
**Prerequisites**: Majors only or completion of first-year law courses or consent of instructor.

LAW 621  Credits 2 – 4  Intellectual Property I  
Study of the law relating to the protection of literary, artistic, and musical material; copyright law, including publication, subjects protected, and extent of protection; aspects of unfair competition, and right of privacy.  
**Prerequisites**: Majors only or completion of first-year law courses or consent of instructor.

LAW 622  Credits 2 – 3  Introduction to Gaming Law  
This course provides an overview of public policy issues; the federal role in gaming regulation; the economics of gaming; the creation of gaming control systems; the licensing process; ethical requirements for the gaming lawyer; accounting, internal controls and taxation; gaming contracts; gaming crimes; advertising; entertainment; the legislative process; problem gambling; and practical approaches to legal representation.  
**Prerequisites**: Majors only or completion of first-year law courses or consent of instructor.

LAW 624  Credits 3  Constitutional Law II  
Examines the Equal Protection Clause of the Fourteenth Amendment and related topics and the First Amendment's Free Speech and Free Press Clauses.  
**Prerequisites**: Majors only or completion of first-year law courses or consent of instructor.

LAW 625  Credits 3  Law and the American Indian  
Anthropological, historical, and legal study of the American Indians, including a focus on American Indian traditional law and values, federal policy and current legal issues.  
**Prerequisites**: Majors only or completion of first-year law courses or consent of instructor.

LAW 626  Credits 3 – 4  Business Organizations I  
Examines different forms of business organization, including corporations, partnerships and limited liability companies. Focuses on similarities and differences among these forms, and examines the roles, responsibilities and rights of the persons involved in business organizations. Does not cover federal regulation of securities or issuers.  
**Prerequisites**: Majors only or completion of first-year law courses or consent of instructor.

LAW 627  Credits 3  Pretrial Litigation  
Hands-on experience of the pre-trial litigation process in the federal court system. Students act as lawyers in a simulated civil case, interviewing and counseling clients, conducting legal research, drafting pleading, engaging in discovery practice, settlement negotiations and pre-trial motion practice.  
**Prerequisites**: Majors only or completion of first-year law courses or consent of instructor.

LAW 628  Credits 3  Payment Systems  
Examine the legal rules regarding how goods and services are paid for. Includes portions of Articles 3 and 4 of the Uniform Commercial Code, federal statutes regarding credit and debit cards, and the rules regarding negotiable instruments.

LAW 629  Credits 3  Intellectual Property II  
Covers federal copyright law and the state law right of publicity, with minor attention to some closely related doctrines. Fundamental principles and public policy questions of federal copyright law. Although some state law doctrines examined from time to time, copyright laws in the United States is almost exclusively federal. For students whose career interests include intellectual property or entertainment law. Also recommended for those interested in communications law, general business transactions, and/or commercial litigation.
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<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>LAW 630</td>
<td>1–3</td>
<td>Community Property</td>
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<td>Examines the law dealing with the classification, management and distribution of property acquisition within the community property jurisdictions of the United States. <strong>Prerequisites</strong>: Majors only or completion of first-year law courses or consent of instructor.</td>
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<tr>
<td>LAW 631</td>
<td>2–4</td>
<td>Remedies</td>
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<td>Explores what lawyers and courts do to help someone who has been, or is about to be, wronged. In-depth look at the four major categories of remedies: damages, coercive remedies, declaratory relief and restitution. <strong>Prerequisites</strong>: Majors only or completion of first-year law courses or consent of instructor.</td>
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<tr>
<td>LAW 632</td>
<td>2–3</td>
<td>Wills, Trusts and Estates</td>
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<td>Examines intestate succession, family protection, execution of wills, will contests, will substitutes, creation of trusts, modification and termination of trusts, administration of estates and trusts. <strong>Prerequisites</strong>: Majors only or completion of first-year law courses or consent of instructor.</td>
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<tr>
<td>LAW 633</td>
<td>2–3</td>
<td>Land Use Regulation</td>
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<td>Focuses on public regulation of land use, including zoning, subdivision regulation, regulation of urban growth, etc. Include the planning process, constitutional limitations on land use controls, state and regional regulation, aesthetic regulation and discriminatory zoning, and private land use alternatives. <strong>Prerequisites</strong>: Majors only or completion of first-year law courses or consent of instructor.</td>
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<td>LAW 634</td>
<td>2–3</td>
<td>Federal Courts</td>
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<td>Examines federal jurisdiction and the law of federal-state relations. Covers federal judicial powers, congressional allocation of jurisdiction, choice of law, district court jurisdiction, appellate review, civil judicial reform, 42 USC Section 1983, Implied Right of Action, 11th Amendment and Federal Habeas Corpus. <strong>Prerequisites</strong>: Majors only or completion of first-year law courses or consent of instructor.</td>
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<td>LAW 635</td>
<td>2–3</td>
<td>Conflict of Laws</td>
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<td>Focuses on the problem of choosing which jurisdiction's law should be applied to transactions, relationships, or events with contracts in more than one jurisdiction. <strong>Prerequisites</strong>: Majors only or completion of first-year law courses or consent of instructor.</td>
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<tr>
<td>LAW 636</td>
<td>2–3</td>
<td>Child, Parent and the State</td>
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<td>Explores the legal relationships between children, their parents, and the state, covering such issues as the child as an autonomous being, the child's role in the family, family autonomy, and the obligations of parents and the state to children. <strong>Prerequisites</strong>: Majors only or completion of first-year law courses or consent of instructor.</td>
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<td>LAW 637</td>
<td>2–3</td>
<td>Sales and Leases</td>
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<td>Examines the laws governing sales and leases of goods, including Articles 1, 2 and 2A of the Uniform Commercial Code, the U.N. Convention on Contracts for the International Sale of Goods, and the Uniform Electronic Transactions Act. <strong>Prerequisites</strong>: Majors only or completion of first-year law courses or consent of instructor.</td>
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<tr>
<td>LAW 638</td>
<td>2–3</td>
<td>Education Law and Policy</td>
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<td>Examines six distinct and highly visible areas of education law and policy, primarily in K-12: compulsory education; school governance and due process; school finance; private schools; religion and public schools; and, equal educational opportunity.</td>
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<tr>
<td>LAW 639</td>
<td>2–3</td>
<td>Feminist Jurisprudence</td>
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<td>Explores feminist theory in relation to the law. Examines the historical foundations of women's legal subordination as well as the various strands of feminist legal theory. Specific units of study may include topics such as affirmative action, comparable worth, work and family, education, sexual harassment, domestic violence, the teaching and practice of law, pornography and free speech, abortion and others. <strong>Prerequisites</strong>: Majors only or completion of first-year law courses or consent of instructor.</td>
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<tr>
<td>LAW 640</td>
<td>2–3</td>
<td>Labor Law</td>
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<td>Explores the employer-employee-union relationship, its historical and economic development and its modern statutory framework.</td>
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LAW 641  Credits 2 – 3
Entertainment Law
Surveys a wide range of legal issues pertinent to live and recorded entertainment, including intellectual property rights, contract formation and breach, regulatory schemes, labor issues, and First Amendment considerations. Prerequisites LAW 629

LAW 642  Credits 2 – 3
Law and Social Justice
Examines the role of law in creating, perpetuating, and dismantling hierarchies of power and privilege in society, particularly those based on social/ethnic groupings, gender, socio-economic class, sexual orientation, and disabilities. Enables students to read law critically with an understanding of the ways in which techniques, practices and rhetorical strategies can exclude and subordinate based on categories of identity.

LAW 643  Credits 2 – 3
Legislation and Statutory Interpretation
Explores some of the various procedural, constitutional, and jurisprudential issues raised by a study of the unique role that state and federal legislatures play in constitutional order. Prerequisites Majors only or completion of first-year law courses or consent of instructor.

LAW 644  Credits 2 – 3
Juvenile Law
Examines the procedural and substantive law and judicial administration relating to juvenile justice. Primary area of concentration: rights of accused juvenile, police conduct and detention, reference for adult prosecution, adjudication, treatment vs. punishment, and the roles of the lawyer in the juvenile court system. Prerequisites Majors only or completion of first-year law courses or consent of instructor.

LAW 645  Credits 2 – 4
Lawyering Theory and Practice
Students study and perform a range of tasks and services performed by practicing attorneys in the representation of clients. Exercises include counseling, assessment of legal problems, efforts for resolution and claims activity, including litigation and defense through complaints, motions, discovery, and trial-related activity.

LAW 646  Credits 2 – 4
Cyberlaw
Study of legal issues attending use of computers and electronic communications and commerce, including intellectual property concerns related to cyberspace and features such as websites, e-commerce and communications. Notes LAW 629 is strongly recommended.

LAW 647  Credits 2 – 4
Civil Rights Litigation
Students examine, analyze and evaluate the various stages of a complex case involving a civil rights claim made pursuant to the Constitution, federal anti-discrimination statutes, or common law. Prerequisites LAW 515, majors only, consent of instructor.

LAW 648  Credits 3
Health Care Liability and Quality Regulation
Explores ways in which the law promotes the quality of health care through licensing, certification, and accreditation of health care professionals and institutions and also addresses liability issues in the health care context. Prerequisites Majors only or completion of first-year law courses or consent of instructor.

LAW 649  Credits 2 – 3
Taxation of Business Entities
Surveys federal income taxation of business entities and their owners, including corporations, partnerships, LLC’s, and LLP’s. Prerequisites LAW 603, majors only or completion of first-year law courses or consent of instructor.

LAW 650  Credits 1 – 3
Estate and Gift Tax
Examines the federal taxation regime applicable to gifts and inheritances. Prerequisites Majors only or completion of first-year law courses or consent of instructor.

LAW 651  Credits 2 – 3
Environmental Quality Law
Provides an overview of the law and policy of environmental quality and pollution control. Addresses the origins and development of modern statutory environmental law as it relates to the various media: air, water and soil. Prerequisites Majors only or completion of first-year law courses or consent of instructor.
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<th>Course Code</th>
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<tr>
<td>LAW 652</td>
<td>2 – 3</td>
<td>International Public Law</td>
<td>Introduction to the doctrines, institutions and methodology of modern international law. Students examine the legal systems governing relations among states, and their expansion to non-state actors. Also analyzes the application of international law in domestic courts, international tribunals and organizations, doctrines of jurisdiction and immunities and human rights. <strong>Prerequisites</strong> Majors only or completion of first-year law courses or consent of instructor.</td>
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<tr>
<td>LAW 653</td>
<td>3</td>
<td>Criminal Procedure I</td>
<td>Basic course in criminal procedure. Covers laws regulating daily interactions of police and public, including laws of search and seizure and of interrogations. Does not cover rights subsequent to interrogation. <strong>Prerequisites</strong> Majors only or completion of first-year law courses or consent of instructor.</td>
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<tr>
<td>LAW 654</td>
<td>2 – 3</td>
<td>Public Lands and Natural Resources Law</td>
<td>Provides an introduction to federal public lands and natural resources law. Focuses on the laws and legal systems that govern the classification and use of the federally owned lands comprising a third of America and the vast majority of the West. Examines major resource areas, including: minerals, timber, range, wildlife, recreation, wilderness, and cultural resources. Explores the interplay between environmental, economic, cultural, social and political factors in managing national parks, forest, and the public domain. <strong>Prerequisites</strong> Majors only or completion of first-year law courses or consent of instructor.</td>
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<tr>
<td>LAW 655</td>
<td>2 – 3</td>
<td>Securitization</td>
<td>Examines the financing technique of securitization and its various legal underpinnings. Securitization is a trillion dollar industry that raises issues in corporate finance, secured transactions, bankruptcy and securities regulation. <strong>Prerequisites</strong> Majors only or completion of first-year law courses or consent of instructor, and LAW 615 or LAW 626.</td>
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<tr>
<td>LAW 656</td>
<td>2 – 3</td>
<td>Business Organizations II</td>
<td>Surveys federal income taxation of business entities and their owners, including corporations, partnerships, LLC’s, and LLP’s. <strong>Prerequisites</strong> LAW 603, majors only or completion of first-year law courses or consent of instructor. Examines the federal taxation regime applicable to gifts and inheritances. <strong>Prerequisites</strong> Majors only or completion of first-year law courses or consent of instructor.</td>
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<td>Provides an overview of the law and policy of environmental quality and pollution control. Addresses the origins and development of modern statutory environmental law as it relates to the various media: air, water and soil. <strong>Prerequisites</strong> Majors only or completion of first-year law courses or consent of instructor.</td>
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<tr>
<td>LAW 657</td>
<td>3</td>
<td>Environmental Law of Natural Resource Areas</td>
<td>Provides an introduction to federal public lands and natural resources law. Focuses on the laws and legal systems that govern the classification and use of the federally owned lands comprising a third of America and the vast majority of the West. Examines major resource areas, including: minerals, timber, range, wildlife, recreation, wilderness, and cultural resources. Explores the interplay between environmental, economic, cultural, social and political factors in managing national parks, forest, and the public domain. <strong>Prerequisites</strong> Majors only or completion of first-year law courses or consent of instructor.</td>
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<td>Basic course in criminal procedure. Covers laws regulating daily interactions of police and public, including laws of search and seizure and of interrogations. Does not cover rights subsequent to interrogation. <strong>Prerequisites</strong> Majors only or completion of first-year law courses or consent of instructor.</td>
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<td>Provides an introduction to federal public lands and natural resources law. Focuses on the laws and legal systems that govern the classification and use of the federally owned lands comprising a third of America and the vast majority of the West. Examines major resource areas, including: minerals, timber, range, wildlife, recreation, wilderness, and cultural resources. Explores the interplay between environmental, economic, cultural, social and political factors in managing national parks, forest, and the public domain. <strong>Prerequisites</strong> Majors only or completion of first-year law courses or consent of instructor.</td>
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completion of first-year law courses or consent of instructor, and LAW 615 or LAW 626.

Covers the law of publicly-traded corporations. Special attention will be given to the fiduciary duties of boards of directors; management, and controlling shareholders; proxy regulation and shareholder voting; insider trading; shareholder litigation and mergers and acquisitions. Prerequisites Majors only or completion of first-year law courses or consent of instructor.

LAW 657 Antitrust
Credits 1 – 3
Basic legal framework for regulating conduct to undermine competitive markets. Topics include antitrust regulation of horizontal agreements between competitors to restrain trade, such as price-fixing, output restrictions, boycotts and mergers; vertical agreements between suppliers and purchasers such as distributional restraints, exclusive dealing and tying; and unilateral conduct, such as monopolization and attempted monopolization. Role of antitrust law in today’s technological environment. Prerequisites Majors only or completion of first-year law courses or consent of instructor.

LAW 658 Immigration Law
Credits 1 – 3
Covers legal issues and policies pertaining to non-citizens of the United States, including the regulation of admission, exclusion, and deportation of immigrants seeking to enter the United States. Rights of non-citizens who are in U.S. territory in the areas of health, education, and labor. Topics covered from various perspectives, including constitutional law, international human rights, comparative law, ethics and morality and history. Prerequisites Majors only or completion of first-year law courses or consent of instructor.

LAW 659 First Amendment Rights
Credits 2 – 3

LAW 660 Banking Law
Credits 3
Basic understanding of the federal and state laws governing traditional commercial banks and financial institutions in the United States. At the end of the course, the students will have a solid foundation which they can use to study more specific areas of law regarding such institutions. Prerequisites Majors only or completion of first year law courses or consent of instructor.

LAW 661 Federal Taxation
Credits 1 – 5
Surveys the three major federal tax topics: income tax (two-fifths of course), taxation of business entities (two-fifths), and estate and gift tax (one-fifth). Students may enroll for all three components (5 credits), or two components, or one component (credits depending on components taken). Prerequisites Majors only or completion of first year law courses or consent of instructor.

LAW 662 Civil and Criminal Tax Litigation
Credits 1 – 3
Examines tax controversy resolution mechanism. Not limited to tax students. Helpful for all interested in litigation career, including civil litigation and white collar crime. Also, good to hone drafting skills. Students prepare pleadings, memos, and other controversy-related documents. Notes May be repeated to a maximum of three credits. Prerequisites Majors only or completion of first year law courses or consent of instructor.

LAW 663 Advanced Issues in Tax
Credits 2 – 3
Seminar. In consultation with the professor, students select a topic of current interest and importance in federal, state, or international taxation. Notes Students write research papers on topic and present and defend them in class. Prerequisites Majors only or completion of first year law courses, or consent of instructor.

LAW 664 Criminal Procedure II
Credits 3
Covers law and practices between the time defendant is charged and final disposition and sentencing. Includes prosecutorial discretion, bail, plea bargaining right to counsel, due process, sentencing, and post-conviction review. Prerequisites Majors only or completion of first year law courses or consent of instructor.
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<tr>
<td>LAW 665</td>
<td>3</td>
<td>Health Care Organization and Finance</td>
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<td>Laws and legal issues relating to the organization and operation of health care enterprises and the financing of health care services. Notes Prior or concurrent enrollment in LAW 626 desirable but not required. Prerequisites Majors only or completion of first year courses or consent of professor.</td>
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<tr>
<td>LAW 666</td>
<td>3</td>
<td>Domestic Violence and the Law</td>
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<td>Examines violence against women and others in intimate relationships and the ways in which the law impacts and is impacted by domestic violence. Explores the history and social context of domestic violence and the dynamics and dimensions of abusive relationships. Prerequisites Majors only or completion of first year courses or consent of professor.</td>
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<tr>
<td>LAW 667</td>
<td>3</td>
<td>International Criminal Law</td>
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<td>Covers the basics of public international law in the context of international criminal law including the nature of international crime, aspects of the international substantive system of laws, and specific offenses, as well as how this law is adjudicated and enforced. Specific offenses covered will include both international and transnational crimes as well as the procedural and adjudicative mechanisms established to deal with these offenses. Prerequisites Majors only or completion of first year law courses or consent of instructor.</td>
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<td>Gives students a familiarity with, and the ability to manipulate, basic concepts in secured transactions (Article 9 of the Uniform Commercial Code) and certain aspects of payment systems (Articles 3, 4 and 5 of the Uniform Commercial Code). Prerequisites Majors only or completion of first year law courses or consent of instructor.</td>
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<tr>
<td>LAW 669</td>
<td>3</td>
<td>Legal Drafting: Special Topics</td>
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<td>Drafting legal documents such as contracts, leases, wills, by-laws, and employment agreements. Recognizing the importance of determining the client's objectives, researching the relevant law, organizing the document effectively, and drafting with accuracy, clarity, brevity, and appropriate tone.</td>
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<td>LAW 670</td>
<td>3</td>
<td>Alternative Dispute Resolution Survey</td>
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<td>Students learn about negotiation, mediation, arbitration, and other forms of dispute resolution that are alternative or supplemental to litigation. The course will include theory, discussion, simulations, and lectures. Prerequisites 500-level courses; majors only; consent of instructor.</td>
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<td>LAW 671</td>
<td>3</td>
<td>Judicial Writing</td>
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<td>Introduction to style and form of judicial writing. Researching and writing on problems typically handled by trial or appellate courts. Exploration of the roles of courts in America's law and society, the internal workings of courts, and the roles and ethical obligations of various court staff. Prerequisites LAW 505, LAW 515; majors only; consent of instructor.</td>
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<tr>
<td>LAW 672</td>
<td>3</td>
<td>International Business Transactions</td>
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<td>Explores a wide range of legal problems involving international trade, licensing, and investment issues. Prerequisites Majors only or completion of first-year law courses or consent of instructor.</td>
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<td>LAW 673</td>
<td>3</td>
<td>Estate Planning</td>
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<td>Cover various estate planning strategies, including but not limited to, the estate planning process, wills and living trusts, gifting considerations, life insurance, limited partnerships and limited liability companies and charitable giving. Prerequisites LAW 632, LAW 650, majors only or permission of instructor.</td>
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<tr>
<td>LAW 674</td>
<td>3</td>
<td>Perspectives on the Law: History and Jurisprudence</td>
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<td>Explores American Legal History and the best thinking about the nature of law and how it functions. Prerequisites Majors only or permission of instructor.</td>
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<tr>
<td>LAW 675</td>
<td>1 – 3</td>
<td>State and Local Taxation</td>
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<td>Explores the state and federal constitutional limits on state taxation and the principle kinds of state taxes: income, sales and property taxes. Prerequisites</td>
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</table>
Majors only or completion of first-year law courses or consent of instructor.

**LAW 676**  
Credits 3  
**Intellectual Property Licensing Practicum**  
Covers the fundamentals of intellectual property licensing agreements with emphasis on drafting techniques for licenses involving patents, copyrights, trademarks, databases, and/or trade secrets.  
**Notes** This course satisfies the third semester Lawyering Process requirement.  
**Prerequisites** LAW 505, LAW 515, LAW 621 or LAW 629.

**LAW 677**  
Credits 2-3  
**Nevada Civil Practice**  
This course covers the basic areas of civil practice [actions, pleadings, civil procedure, evidence, and remedies], and will explore their particular applications [from selection, discovery tactics, litigation and trial strategy, professional ethics].  
**Prerequisites** Majors only or completion of first year law courses or consent of professor.

**LAW 710**  
Credits 2 – 3  
**The Bill of Rights in Law and History**  
Read recent works on the Bill of Rights and consider contemporary and historical questions about the meaning and purpose of the Bill of Rights or one of its particular provisions. Topics include federalism, populism, the role of reason in conceptualizations of the Constitution and Bill of Rights, the problem of unenumerated rights and issues raised by the incorporation controversy.  
**Prerequisites** Law 517

**LAW 711**  
Credits 2 – 3  
**Children in Society: Selected Problems**  
Examines issues related to laws and policy governing the place and treatment of children in American society. Specific issues vary somewhat based on current events and student interest, but generally focus on legal and policy issues affecting the meaning of the state's parents-partial obligation, the parent-child relationship and the family.

**LAW 712**  
Credits 2 – 4  
**Trial Advocacy**  
Students design, execute, and practice the lawyering tasks specifically associated with actual courtroom trials, including opening statements, direct examination, cross-examination, evidentiary objectives, and closing arguments. Students perform these tasks in the context of hypothetical cases.  
**Prerequisites** Prior or concurrent enrollment in LAW 606 and LAW 515.

**LAW 713**  
Credits 2 – 4  
**Interviewing, Counseling and Negotiations**  
Studies three principal forms of lawyering that take place outside the courtroom. Examines issues of client relations, decision-making and ethics in dealing with opponents as well as in guiding clients. Simulated exercises performed by students.  
**Prerequisites** LAW 610

**LAW 714**  
Credits 2 – 4  
**Alternative Dispute Resolution Practicum**  
Engages in simulated situations involving various means of alternative dispute resolution in action, including simulated forms of mediation, arbitration, and various hybrids of ADR.  
**Prerequisites** LAW 531

**LAW 715**  
Credits 2 – 3  
**Mediation**  
Examines the theory, practice, and public policy of mediation. Focusing particularly on issues of relevance to attorneys representing clients in mediation, the course will include simulations.  
**Prerequisites** Majors only or completion of first year law courses or consent of instructor.

**LAW 716**  
Credits 1 – 3  
**Society of Advocates**  
Students participate in forensic competitions, such as moot court and trial practice, involving legal research and analysis and brief writing as well as oral arguments or other advanced lawyering tasks.  
**Prerequisites** LAW 515, majors only; consent of instructor.

**LAW 717**  
Credits 2 – 4  
**Arbitration**  
Examination of the history and use of arbitration as well as its current legal status. Focus will be on substantive legal doctrines of arbitration particularly enforcement of arbitration agreements, and on arbitration procedure, particularly the manner in which arbitration may be conducted in various contexts.  
**Prerequisites** LAW 610

**LAW 718**  
Credits 3  
**Advanced Advocacy: Special Topics**  
Analysis and writing about complex legal problems and writing documents that would be submitted to a court or quasi-judicial decision-maker.  
**Prerequisites** LAW 505 and LAW 515; majors only; consent of instructor.
LAW 719 Credits 2 – 3
Negotiation
Examines the theory, practice, and public policy of negotiation. Focusing particularly on issues of relevance to attorneys representing clients in negotiation, the course will include numerous simulations. Prerequisites Majors only or completion of first year law courses or consent of instructor.

LAW 723 Credits 3
Economics and the Law
Application of economic analysis to the topics confronted in litigation. Topics include: microeconomic theory, property rights, contracts, torts, discrimination, eminent domain, copyrights, patents, antitrust and criminal law. Prerequisites ECO 302 or MBA 710, or consent of instructor.

LAW 724 Credits 1 – 3
Law Practice Management
Study how to maintain law practice for clients, including not only law office management but also issues of handling client funds, legal ethics, and economics of successful law practice. Prerequisites Majors only or completion of first-year law courses or consent of instructor.

LAW 725 Credits 1 – 3
Gaming Policy Seminar
Studies gaming policy and sophisticated legal issues surrounding gaming law and regulation, primarily through case studies. Focuses on legislative and administrative action as well as litigation. Prerequisites Majors only or completion of first-year law courses, LAW 622 or consent of instructor.

LAW 726 Credits 2 – 3
Separation of Powers Law
Explores the separation of powers in federal constitutional system. Topics covered include allocation of authority in the Constitution relating to the conduct of American foreign policy and the conduct of war-making activities. Prerequisites Majors only or completion of first-year law courses or consent of instructor.

LAW 727 Credits 2 – 3
International Human Rights Law
Studies the norms, procedures, and the actors of international human rights. Explores the U.S. role in international human rights, the US policies that motivate its involvement, and the significance of international human rights as US domestic law. Explores the legal and moral complexities of implementing universal principles of human rights and introduce the mechanics of the practice of human rights domestically and internationally. Prerequisites Majors only or completion of first year law courses or consent of instructor.

LAW 728 Credits 2 – 3
Bioethics and the Law
Seminar explores law and policy relating to bioethical issues. Coverage of issues varies somewhat based on current events and student interest. Topics may include abortion, genetic screening, defining death, the “right to die,” and research involving human subjects. Prerequisites Majors only, consent of instructor.

LAW 729 Credits 1 – 3
Advanced Legal Research
Expands the research skills that have been introduced in Lawyering Process I as well as introduce new topics. Focuses on practitioner oriented materials and their use. In addition, research in specific subject areas also explored. Prerequisites Majors only, consent of instructor; LAW 505, LAW 515.

LAW 730 Credits 2 – 3
Business Bankruptcy
Studies financially distressed businesses with emphasis on business reorganizations under Chapter 11 of the Bankruptcy Code. Emphasizes lawyering skills and may include students representing parties in a simulated Chapter 11. Prerequisites Majors only, or completion of first year courses or consent of professor; either LAW 605 or LAW 615.

LAW 731 Credits 2 – 3
Seminar in Race, Gender, Sexual Orientation and the Law
Students select the specific topics covered. Examines race, ethnicity, culture, gender, and sexual orientation and how legal norms address tensions raised by such diversity.

LAW 732 Credits 3
Privacy, Publicity & Defamation
 Discusses constitutional right to privacy, the four privacy torts, contrast between right of privacy and right against defamation, and right of publicity. Prerequisites Majors only or completion of first year courses or consent of professor.

LAW 733 Credits 2 – 3
Advanced Intellectual Property Seminar
Course covers advanced topics in copyright, trademark and unfair competition law, trade secrets, and patent law. **Prerequisites** LAW 621, LAW 629, majors only or completion of first-year law courses or consent of instructor.

**LAW 734**  
**Credits 1**  
**Income Taxation of Estates and Trusts**  
Examines federal income taxation of estates, trusts, and income in respect of decedent. Considers effect on estate, planning and administration. **Prerequisites** LAW 603, majors only, completion of first-year courses or consent of instructor.

**LAW 735**  
**Credits 1 – 3**  
**U.S. Taxation of International Transactions**  
Examines how the federal income tax applies to outbound (U.S. persons doing business abroad) and in-bound (foreign persons doing business in U.S.) transactions. Also examines tax treaties. **Prerequisites** LAW 603, majors only or completion of first-year law courses or consent of instructor.

**LAW 736**  
**Credits 1 – 3**  
**Securities Regulation**  
A study of federal and state securities regulation, including statutes, administrative rules, decisions and interpretations, cases governing the duties of participants in securities offerings, and other securities transactions. Coverage will include registration, disclosure, and antifraud provisions and, time permitting, may include international and comparative topics. **Notes** While not required, students without an undergraduate or graduate business degree or comparable work experience are encouraged to take Law 626, prior to taking this course. **Prerequisites** Completion of first-year law courses or consent of instructor.

**LAW 737**  
**Credits 2-3**  
**Workers Compensation**  
Students will gain an effective understanding of Worker's Compensation law, as it is practiced in most jurisdictions, with emphasis on the rights of workers to compensation, the administration of claims and the evaluation of individual cases. **Prerequisites** Majors only or completion of first year law courses or consent of professor.

**LAW 738**  
**Credits 2-3**  
**Death Penalty Seminar**  
This course addresses the law of capital punishment and constitutional requirements. Emphasis is on Nevada's death penalty statutes and Nevada Supreme Court Death penalty jurisprudence, policy issues implicated by capital punishment, and responsibilities of lawyers who handle capital cases. **Notes** It is strongly recommended that students complete LAW 653 and LAW 664. **Prerequisites** Majors only or completion of first year law courses or consent of professor.

**LAW 739**  
**Credits 3-4**  
**Community Law**  
Students learn about the law through both classroom study and structured field experiences in which they apply what they learn by providing law-related services to community partners. Students will also develop their awareness of ethical issues, the social and cultural contexts of legal institutions, and the value of civic engagement. **Prerequisites** Majors only, completion of first-year law courses or consent of instructor.

**LAW 750**  
**Credits 3 – 6**  
**Congressional Externship**  
Explores the legislative process by placing students in legislative offices in Washington D.C. **Prerequisites** Majors only or completion of first-year law courses or consent of instructor.

**LAW 751**  
**Credits 3 – 7**  
**Judicial Externship**  
Explores the role of the judiciary in the legal system by means of in-class discussions and field placements in judicial chambers in federal and state courts in the state of Nevada. **Prerequisites** Majors only, consent of instructor.

**LAW 752**  
**Credits 1 – 12**  
**Legislative Externship**  
Explores the state legislative process by placing students in the Legislative Counsel Bureau Office in Carson City and Las Vegas. Students are assigned to work with the Legislative Counsel Bureau, the House and Senate Judiciary Committees and interim committees. **Prerequisites** Majors only or completion of first-year law courses or consent of instructor.

**LAW 760**  
**Credits 1 – 3**  
**Law Journal**  
Academic credit for successful completion of work by a member of the Nevada Law Journal. **Grading** S/F grading only. **Prerequisites** Successful completion of writing competition and selection by the instructor.
LAW 761  Credits 1-3
Gaming Law Journal
Academic credit for successful completion of work by a member of the Gaming Law Journal. Notes: May be repeated to a maximum of 6 credits. Grading: S/F grading only Prerequisites: Graduate standing

LAW 769  Credits 3–6
Education Clinic
Students will represent children and their adult educational decision makers in educational matters in administrative foray including informal and formal hearings within Nevada school systems and possibly in state and federal court. Students, teamed with professionals from other disciplines, will also work on educational policy and advocacy. Prerequisites: Completion of thirty credits; majors only; permission of instructor. Completion of thirty credits; majors only; permission of instructor.

LAW 770  Credits 1-6
Family Justice Clinic
This clinic explores the role of families in society, the strengths and weaknesses of state intervention into families, and the meaning of access to justice for children and parents. Students represent children, parents, or guardians in family cases including termination of parental rights, guardianship, and other family matters. Cases involve contested trials, negotiations, administrative advocacy, and cutting edge legal and policy issues. Notes: In order to represent clients in court, students must be licensed under Nevada’s student practice rule. Course also has classroom component. Prerequisites: Completion of 30 law school credits.

LAW 771  Credits 1–6
Juvenile Justice Clinic
Under direct supervision of the professor, students represent juveniles in juvenile court and district court proceedings involving charges of criminal conduct. To represent these clients, students must be licensed under Nevada’s student practice rule for court appearances. Course also has classroom component. Prerequisites: LAW 616, LAW 613, majors only or completion of first-year courses or consent of instructor.

LAW 772  Credits 1-6
Special Topics: Mediation Clinic
Students will study theories of conflict, negotiation and mediation. They will be exposed to many different models of mediation and learn to choose the interventions and techniques appropriate for different settings. Students receive practical and theoretical training in mediation theory and apply what they learn by mediating live cases in their weekly 4-hour placement in a variety of community venues. Prerequisites: Completion of first-year law courses, interviewed by and permission of instructor.

LAW 773  Credits 1–12
Government & Public Interest Externship
Designed to provide experiential learning opportunities in a variety of public law agencies including the offices of the U.S. Attorney, Special Public Defender, Clark County District Attorney, Federal Defender, and others. Notes: Supervised fieldwork is coupled with a weekly seminar. Corequisite/Prerequisite: Professional responsibility.

LAW 774  Credits 1–6
Capital Defense Clinic
Under direct supervision of the professor, students work on legal teams representing capital defendants. The classroom component of the course will emphasize death penalty law, lawyering skills, and professionalism issues. Notes: Students must be able to be certified for student practice under the applicable court rules. Prerequisites: Second year standing.

LAW 775  Credits 1–6
Immigration Clinic
Under direct supervision of the professor, students represent clients in judicial and administrative proceedings involving immigration and related matters. The course will have a classroom component emphasizing immigration and naturalization law, lawyering and professionalism. Notes: Students must be eligible to represent clients under the applicable student practice rules.

LAW 776  Credits 2
Natural Resources Field Seminar
Course offers students an opportunity to explore advanced natural resources law issues both in the field and through traditional classroom discussion and research. Topics include rangeland management, wildlife management, endangered species protection, forest management, the Colorado ecosystem and fire management.

Prerequisites: LAW 654 or LAW 620 or consent of instructor.

LAW 777  Credits 1-2
Community Law Practicum

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A "companion course" that students take to add a practical application component to a doctrinal course. Students will work, individually or in teams, on a research, investigative or litigation project, undertaken in collaboration with community partners selected or approved by the professor teaching the doctrinal course. **Prerequisites:** Majors only, completion of first-year law courses or consent of instructor.

**LAW 778**  
**Innocence Clinic**  
This course will teach about the systemic causes of wrongful convictions and the legal remedies for actually innocent clients. Students enrolled in the course will work on Nevada claim of innocence cases referred from the Rocky Mountain Innocence Center and work on policy projects to improve the criminal justice system. **Prerequisites:** Completion of 30 law school credits.

**LAW 779**  
**Appellate Clinic**  
Students will represent clients on appeal in the Ninth Circuit Court of Appeals, the United States Supreme Court, or the Nevada Supreme Court. These appeals may include direct criminal appeals or civil appeals. Students will develop expertise in appellate counseling, strategy, legal research, storytelling, and oral and written advocacy. **Prerequisites:** Completion of 45 law school credits.

**LAW 780**  
**Directed Readings**  
Students earn credit for completing readings under the supervision and approval of a faculty member. **Prerequisites:** Majors only; consent of instructor required.

**LAW 781**  
**Directed Research**  
Students research and write about a legal topic of their choice under the guidance and supervision of a faculty member who has approved their choice of topic. Students further their knowledge of the area, as well as their legal research and writing skills. **Prerequisites:** Majors only, consent of instructor.

**LAW 790**  
**Special Topics in Law**  
Involves the study of a specialized topic in law that is not covered elsewhere in the law school curriculum. The particular topic will be announced during registration for the semester in which the course is offered. **Notes:** May be repeated to a maximum of six credits. **Prerequisites:** Majors only or completion of first year law courses or consent of instructor.
College of Liberal Arts

The College of Liberal Arts offers doctoral programs in Anthropology, English, History, Political Science, Psychology and Sociology. Eight Masters of Arts degrees along with an M.F.A. in creative writing are also available. Ranging across the college’s two subdivisions of the humanities and social sciences, these programs are ably staffed by nationally recognized scholars. These faculty members, who have earned advanced degrees from many of the nation’s most prestigious universities, actively pursue research and creative activities that advance their professions and often benefit the larger community. These endeavors are especially important since graduate education requires an understanding of the methodology for producing knowledge as well as the mastery of bodies of information. Small classes and individual attention further enhance the learning experience of each of these programs. In short, prospective graduate students in the College of Liberal Arts may confidently expect to participate in programs characterized by rigorous intellectual pursuit and careful, conscientious instruction.

Christopher C. Hudgins, Dean
(1976) Professor; A.B., Davidson College; M.A., Ph.D., Emory University
Anthropology

Chair

Jankowiak, William
(1991), Professor; B.A., State University of New York; B.A., Ph.D., University of California, Santa Barbara

Graduate Coordinator

Harry, Karen
(2001), Associate Professor; B.A., Texas A&M University; M.A., Ph.D., University of Arizona

Graduate Faculty

Atici, Levent
(2007), Assistant Professor; B.A., M.A., Ankara University; M.A., Ph.D., Harvard University.

Bao, Jiemin
(1997), Professor; B.A., Laotian University; M.S., Ph.D., University of California, Berkeley.

Frink, Liam
(2005), Associate Professor, B.A., M.A., Ph.D., University of Wisconsin, Madison.

Gray, Peter
(2005), Associate Professor, B.A., University of California Los Angeles; M.A., Ph.D., Harvard University.

Harry, Karen
(2001), Associate Professor; B.A., Texas A&M; M.A., Ph.D., University of Arizona.

Lienard, Pierre
(2008), Assistant Professor; Ph.D., Universite Libre de Bruxelles.

Martin, Debra
(2006), Professor; B.S., Cleveland State University, M.A., Ph.D., University of Massachusetts, Amherst.

Roth, Barbara
(2002), Associate Professor; B.S. University of Colorado; M.A., Ph.D., University of Arizona.

Simmons, Alan H.
(1993), Professor; B.A., University of Colorado, Boulder; M.A., University of Toronto; M.A., Ph.D., Southern Methodist University.

Thompson, Jennifer L.
(1998), Associate Professor; B.A., Queens University; M.A., Trent University; Ph.D., Durham University.

Desert Research Institute

Associate Graduate Faculty

Beck, Colleen
(1994), Research Professor; B.A., M.A., Ph.D., University of California, Berkeley.

Buck, Paul
(1994), Associate Research Professor; B.A., California State University, Chico; M.A., Ph.D., University of Washington.

Rhode, David
(2000), Research Professor; B.A., University of California, Davis; M.A., Ph.D., University of Washington.

Johnson, William
(1994), Director; B.A., Florida International University; M.A., University of South Florida; Ph.D., University of Florida.
Professors Emeriti

Knack, Martha
(1977-2008), Distinguished Professor; B.A., M.A., Ph.D., University of Michigan.

Lynneis, Margaret M.
(1976-2001), Emeritus Professor; B.A., University of Washington; M.A., Ph.D., University of California, Los Angeles.

Miranda, Malvin
(1976-2009), Professor; B.A., California State University, Long Beach; M.S., Ph.D., University of California, Los Angeles.

Palmer, Gary B.
(1973-2005), Emeritus Professor; B.S., Hamline University; M.S., Ph.D., University of Minnesota.

Swetnam, John J.
(1973-2008), Professor; B.A., University of Pittsburgh; Ph.D., University of Pennsylvania.

Urioste, George L.
(1974-2009), Professor; B.A., St. Peter Claver College; Ph.D., Loyola University; B.D., Boston College; M.A., Ph.D., Cornell University.

Warren, Claude N.
(1969-1997), Emeritus Professor; B.A., M.A., University of Washington; Ph.D., University of California, Los Angeles.

Our program, which has a strong field and laboratory component in addition to coursework, is designed to prepare our graduates to work in a variety of settings, including academia, applied anthropology, cultural resources management, and other research settings.

Programs
- Anthropology M.A.
- Anthropology Ph.D.

Anthropology M.A.

Admission Requirements

1. In addition to the general admission requirements established by the Graduate College, the applicant should have earned 18 semester credit hours in anthropology accepted by the department, with at least a 3.00 average in those courses. It is preferred that as many of the four subdisciplines as possible be represented among those courses and approximately one half of the 18 hours be at the upper-division level.

2. Applicants must submit a research paper representative of their undergraduate work. If the student did not major in anthropology as an undergraduate, a research paper in another field indicative of the student’s ability is acceptable.

3. Applicants must also submit an explicit letter of intent.

4. GRE scores are required for admission to both the M.A. and Ph.D. programs. There is no required minimum score, but scores will be used in combination with other information in the application to evaluate the applicant. The exam must be taken within five years preceding the deadline for the application to be considered.

Degree Requirements

In addition to the general requirements established by the Graduate College, the candidate must meet the following degree requirements:

1. The student must earn a minimum of 33 semester hours of credit at the graduate level.

2. Eighteen of the 33 units presented for the degree must be courses with the prefix ANTH at the 600-level or above, including ANTH 700A, 700B, 703, and 704. ANTH 700A, 700B, 703 and 704 may be taken only after the student’s acceptance into the Graduate College. ANTH 700A and 700B are one-credit, pass/fail seminar courses that
require a ‘pass’ grade for students to continue in the program. ANTH 703 and 704 are core seminar courses that must be passed with a grade of B- or better. Classes in which a student receives a C+ or lower will not count towards his or her degree, and any student receiving more than one C+ or lower will be separated from the graduate program.

3. The 18 credits in anthropology must also include ANTH 790.
4. Up to three credits each of ANTH 701 and ANTH 799 can be applied toward the degree but may be taken only after acceptance into the Graduate College.
5. At least three 700-level courses, beyond the core courses (ANTH 703 and ANTH 704) and excluding ANTH 701 and ANTH 799, must be taken.
6. The student must demonstrate a competence in statistics by passing an appropriate advanced class, such as ANTH 770.
7. In consultation with his/her advisor, a student will organize a thesis committee of at least three departmental members. In addition, a fourth member outside the department will be assigned by the Graduate College. Another outside member may be added at the department’s discretion.
8. The student must submit to the department a written thesis research proposal approved by the thesis committee prior to the commencement of fieldwork or research. The student also must present a defense of this proposal to the thesis committee.
9. After successfully completing these tasks, the student will then conduct approved anthropological research to gather data needed for writing the thesis. This may involve fieldwork, laboratory research, or research on a theoretical topic.
10. The student must submit and successfully defend their thesis. This defense is open to the public.

## Anthropology Ph.D.

### Admission Requirements

1. Applicants must meet the general admission requirements established by the Graduate College. Normally, only applicants possessing a master’s degree in anthropology, or its equivalent, from an accredited institution are considered for admission. Students entering with an approved M.A. will not be required to go through the department’s M.A. program, but they may be required to take remedial courses in the case of deficiencies. Applicants without an M.A. in anthropology should have a minimum of 18 semester credit hours in anthropology distributed among all traditional subdisciplines of the field.

2. The applicant must have at least a 3.50 (A=4.00) grade point average for previous graduate work.

3. The applicant must submit an example of their previous research, preferably a published paper; a copy of their thesis or a relevant research paper is also acceptable.

4. The applicant must submit a detailed statement of intent (1-2 pages) outlining proposed research. In addition, the applicant must identify specific members of the faculty with whom they may wish to work.

5. Three letters of recommendation must be provided attesting to the applicant’s ability to conduct doctoral level work. At least two of the letters must be from academic references.

6. The applicant must submit GRE scores and transcripts; foreign applicants must submit TOEFL scores.

### Degree Requirements

#### Requirements for Students Entering with a Master’s Degree:

1. A minimum of 42 credits of approved work beyond the M.A. must be completed. This will not include remedial courses.
2. The 42 credits and any remedial work must be passed with a grade of B- or better. Classes in which a student receives a C+ or lower will not count towards his or her degree, and any student receiving more than one C+ or lower will be separated from the graduate program.

3. Within the 42 credits, there will be a cap of three credits each of independent study and directed readings and 12 hours for the dissertation.

4. Of the minimum 42 credits, 18 must be in anthropology graduate seminars. Eight of these must be in ANTH 700A, 700B, 703 and 704, unless the applicant can successfully petition out of the core (703 and 704) courses. ANTH 700A and 700B are one-credit, pass/fail seminar courses that require a ‘pass’ grade for students to continue in the program. ANTH 703 and 704 are core seminar courses that must be passed with a grade of B- or better.

5. Three of the 18 credit hours must be ANTH 790.

6. The student must demonstrate a competence in statistics by passing an appropriate advanced class, such as ANTH 770.

7. In consultation with his/her advisor, a student will organize a dissertation committee of at least three departmental members. In addition, a fourth member outside the department will be assigned by the Graduate College. Another outside member may be added at the department’s discretion.

8. The student must pass a comprehensive examination with a grade of B- or better in the method and theory of one subdiscipline, in one topical area, and in one regional area. Students who fail in any portion of the exam may retake that portion the following year. A second failure results in termination from the doctoral program.

9. After passing the doctoral comprehensive examination, the student must submit to the department a written dissertation proposal approved by the dissertation committee prior to the commencement of fieldwork or research. The student also must present a defense of this proposal to the academic community. After successfully completing these tasks, the student is advanced to candidacy.

10. The student will then conduct approved anthropological research to gather data needed for writing the dissertation. This may involve fieldwork, laboratory research, or research on a theoretical topic, but in any case must represent an original contribution to knowledge.

11. The student must submit and successfully defend their dissertation. This defense is open to the public.

Requirements for Students Entering with a Bachelor’s Degree:

1. A minimum of 75 credits of approved work beyond the M.A. must be completed. This will not include remedial courses.

2. The 75 credits and any remedial work must be passed with a grade of B- or better. Classes in which a student receives a C+ or lower will not count towards his or her degree, and any student receiving more than one C+ or lower will be separated from the graduate program.

3. Within the 75 credits, there will be a cap of three credits each of independent study and directed readings and 12 hours for the dissertation.

4. Of the minimum 75 credits, 30 must be in anthropology graduate seminars. Eight of these must be in ANTH 700A, 700B, 703 and 704, unless the applicant can successfully petition out of the core (703 and 704) courses.

5. Three of the 30 credit hours must be ANTH 790.

6. In consultation with his/her advisor, a student will organize a dissertation committee of at least three departmental members. In addition, a fourth member outside the department will be assigned by the Graduate College. Another outside
member may be added at the department’s discretion.

7. The student must demonstrate a competence in statistics by passing an appropriate advanced class, such as ANTH 770.

8. In consultation with the student, and as approved by the student’s committee, the student will complete one of three options for an MA in Anthropology en route to receiving their PhD: a) write a publishable professional paper, b) submit a competitive external grant, or c) write a thesis. In consultation with the student, the student’s committee will decide which option the student will take. Each of these options will require a committee defense and department defense.

9. The student must pass a comprehensive examination with a grade of B- or better in the method and theory of one subdiscipline, in one topical area, and in one regional area. Students who fail in any portion of the exam may retake that portion the following year. A second failure results in termination from the doctoral program.

10. After passing the doctoral comprehensive examination, the student must submit to the department a written dissertation proposal approved by the dissertation committee prior to the commencement of fieldwork or research. The student also must present a defense of this proposal to the academic community. After successfully completing these tasks, the student is advanced to candidacy.

11. The student will then conduct approved anthropological research to gather data needed for writing the dissertation. This may involve fieldwork, laboratory research, or research on a theoretical topic, but in any case must represent an original contribution to knowledge.

12. The student must submit and successfully defend their dissertation. This defense is open to the public.

AAS 636
Politics of Racial Ambiguity
Credits 3
Interdisciplinary investigation of contemporary American black/white multiracial identities, including analyses and assessments of the multiracial identity movement in the United States.

ANTH 609
Economic Anthropology
Credits 3
Comparative study of preliterate and peasant economic systems, with particular attention paid to the relation of these systems to the social and cultural arrangements of these societies. Notes: Credit at the 600 level normally requires additional work.

ANTH 617
Evolution & Culture: 'Darwinian' Models of Culture
Humans depend on complex cultures for their survival. Why it is the case, how it is made possible and how fundamentally culture affects humans have always been essential focuses of the anthropological research. The courses will present the main models of cultural evolution found currently in the anthropological literature. Prerequisites: Graduate standing.

ANTH 620
Magic, Witchcraft, and Religion
Examines the ways non-western people experience "religion" in official and unofficial domains. Provides a conceptual framework for analyzing the way cultures outside the U.S. organize reality to gain an awareness of the interrelationship between cosmology, religion, and personhood and an appreciation of the cultural diversity found around the world. Notes: Credit at the 600 level normally requires additional work.

ANTH 622
Psychological Anthropology
Examines how culture influences the development of character and conduct in non-western societies. Provides cross-cultural research findings on socialization, aggression, sexual behavior, mental illness and social pathology. Research findings from small-scale and complex societies from around the
globe are evaluated. **Notes:** Credit at the 600 level normally requires additional work.

**ANTH 626**  
**Credits 3**  
**Medical Anthropology**  
Overview of medical anthropology, covering such topics as disease and human evolution, ecology of disease, and culture-centered approaches in the field, including ethnomedicine (cross-cultural conceptions of health and illness), healers in global perspective, and medicine practiced in clinical and public health settings in societies around the world. **Notes:** Credit at the 600 level normally requires additional work.

**ANTH 627**  
**Credits 3**  
**Cross-Cultural Cognition**  
The class provides insights into the cognitive science of culture and, specifically, the study of interactions between cognition and culture. We will focus on the study of models and theories of the behavioral sciences engaged in the cross-cultural study of recurrent patterns of social organization, thought processes and practices. **Prerequisites:** ANTH 101 or ANTH 102 or ANTH 105 or equivalent.

**ANTH 630**  
**Credits 3**  
**Anthropology and Ecology**  
Focuses on the biocultural processes by which people adapt to their environments around the world. Human genetic, developmental and behavioral responses to environments considered across a range of cultural contexts. Topics include human growth, reproduction, diet, disease, resource use and sociopolitical structures. **Notes:** Credit at the 600 level normally requires additional work.

**ANTH 633**  
**Credits 3**  
**Theories of Cultural Change**  
Mechanisms of change such as invention, diffusion, revitalization movements, devolution, urbanization, and acculturation. In addition, forms of forcible change such as colonialism and conquest, rebellion and revolt covered. **Notes:** Credit at the 600 level normally requires additional work.

**ANTH 634**  
**Credits 3**  
**Ethnohistory**  
Methodological study applying anthropological concepts to early written sources and recorded oral tradition. Cross-cultural comparisons. **Notes:** Credit at the 600 level normally requires additional work.

**ANTH 636**  
**Credits 3**  
**History of Anthropology**  
History of the intellectual developments within anthropology. **Notes:** Credit at the 600 level normally requires additional work.

**ANTH 638**  
**Credits 3**  
**Ethnographic Field Methods**  
Surveys methods and techniques of field work. Students do weekly ethnographic projects and write short reports. **Notes:** Credit at the 600 level normally requires additional work.

**ANTH 640B**  
**Credits 3**  
**Archaeology of the Great Basin**  
Explores the prehistory of the Great Basin and surrounding areas, including the Mojave Desert. Examines the Paleoindian, Archaic, and later prehistoric occupation of the region, focusing on the evidence archaeologists use to reconstruct past behavior and how the environment influenced prehistoric peoples in the area. **Notes:** Credit at the 600 level normally requires additional work.

**ANTH 640C**  
**Credits 3**  
**Archaeology of the Southwest**  
Prehistory of the American Southwest, focusing on development of the Anasazi, Hohokam and Mogollon cultures and their antecedents 2000 B.C. to A.D. 1500. **Notes:** Credit at the 600 level normally requires additional work.

**ANTH 641B**  
**Credits 3**  
**Near Eastern and Mediterranean Prehistory**  
Reviews Near Eastern and Mediterranean archaeology from the earliest evidence of humans in the region through the origins and development of farming and food production. Examines foundations for civilization in Egypt and Mesopotamia and the colonization of islands of the Mediterranean Sea.
Notes: Credit at the 600 level normally requires additional work.

ANTH 643 Credits 3
Environmental Archaeology
Examines human adaptations to various environments, techniques from the environmental sciences. Analysis of ancient human and environmental interactions stressing arid lands. Human impacts upon the landscape, constraints imposed by ecological variables, and techniques used in environmental reconstruction. Notes: Credit at the 600 level normally requires additional work.

ANTH 644 Credits 3
Bioarchaeology
Method and theory for the study of human remains in archaeological contexts. Notes: Credit at the 600 level normally requires additional work.

ANTH 649A Credits 3
Ceramic Analysis in Archaeology
Introduction to the laboratory analysis of archeological ceramics. Emphasizes theories and techniques used to reconstruct past human behavior from the study of prehistoric and historic ceramics. Notes: Credit at the 600 level normally requires additional work.

ANTH 649B Credits 3
Lithic Artifact Analysis
Designed to provide general background on lithics and lithic analysis. Explores lithic technology, typology, and interpretations of lithic assemblage variability. Notes: Credit at the 600 level normally requires additional work.

ANTH 649D Credits 3
Zooarchaeology Laboratory
Enables students to identify, document, analyze, interpret, and report archaeological animal bone assemblages. Addresses theoretical, methodological, and analytical issues that are significant in designing and conducting zooarchaeological research. Notes: Credit at the 600 level normally requires additional work. Prerequisites: Consent of instructor.

ANTH 654 Credits 3
Ethnoarchaeology
Theoretical foundations, methods, and issues associated with an ethnoarchaeological approach. Explores present interactions of people within their environments and the formation, patterns, and meaning of the archaeological record. Notes: Credit at the 600 level normally requires additional work. Prerequisites: Consent of instructor.

ANTH 655 Credits 3
Archaeological Theory
Surveys major theoretical approaches used in archaeology. Examines historical development of these theories and discusses their practical application. Notes: Credit at the 600 level normally requires additional work.

ANTH 656 Credits 3
Archaeology of Technology
Explores the methodological and theoretical developments in archaeological research on technology and the challenges of connecting materials with human behavior and intent in the past. Notes: Credit at the 600 level normally requires additional work. Prerequisites: Consent of instructor.

ANTH 658 Credits 3
Origins of Inequality: A Cross-cultural Perspective
This course uses origins of inequality to understand how societies and their culture developed differently across time and space. A cross-cultural emphasis enables the student to appreciate the factors responsible for the rise of different modes of sociopolitical organization around the globe and to realize the complexity of human experience.

ANTH 662 Credits 4
Human Osteology: Archaeological and Forensic Applications
Utilization of physical anthropological methods of bone analysis applied to the identification of human
and non-human skeletal remains. Notes: Credit at the 600 level normally requires additional work.

**ANTH 664**  Credits 3  
**Dental Anthropology: Archaeological and Forensic Applications**  
Dental morphology, growth and development, and dental variability in modern populations. Techniques used to reveal information about past diets, health, and behavior. Forensic odontology. Major stages in the evolution of the dentition, with particular focus on primate and human dental evolution. Notes: Credit at the 600 level normally requires additional work.

**ANTH 665**  Credits 3  
**Human Growth and Aging**  
Processes of growth, maturation, development, and aging. Features of embryology and placentation, birth and breast-feeding, life history parameters, menarche and menopause, and physical age changes during later years. Evolutionary aspects of growth and determinants of developmental variation resulting from genetic, environmental, and socio-cultural factors. Notes: Credit at the 600 level normally requires additional work.

**ANTH 667**  Credits 3  
**Health and Disease in Antiquity**  
Covers paleopathology, or, the study of disease in ancient populations. Provides an overview of morbidity and mortality over the last 20,000 years for many different populations from around the globe. Information on disease is drawn from human skeletal and mummified remains, and from archaeological reconstructions of lifestyle and diet. Notes: Credit at the 600 level normally requires additional work.

**ANTH 669**  Credits 3  
**Evolution and Biology of Human Behavior**  
Reviews relevant theory and primary approaches—evolutionary psychology and behavioral ecology—for investigating human behavior from an evolutionary perspective. Topics include cooperation, mate choice, parenting, pair bonding, aggression, language and culture.

**ANTH 671**  Credits 3  
**Evolution of Human Sexuality**  
Examines human sexuality from an evolutionary perspective. Major themes include basics of evolutionary theory, comparisons with other nonhuman primates, cross-cultural and historical variation in human sexuality and consideration of the neuroendocrine bases of sexual behavior. Topics include sexual selection, mating systems, and sexual orientation.

**ANTH 672**  Credits 3  
**Hormones and Human Behavior**  
Covers the dynamic field of human hormones and behavior. Emphasis is given to human naturalistic and clinical studies. Cross-cultural and comparative nonhuman primate findings are highlighted. Topics addressed include sex differences, sexual behavior, parenting, aggression, and the stress response. Notes: Credit at the 600 level normally requires additional work. Prerequisites: Equivalent of 3 credit hours in Physical Anthropology, Biology, or Psychology.

**ANTH 673R**  Credits 3  
**Anthropology of Violence**  
An overview on the history of aggression, violence and trauma in human groups. Interpersonal and institutional forms of violence are examined from an anthropological perspective. The goal of the course is to explore a number of theoretical frameworks used by anthropologists to understand violence. Prerequisites: Graduate standing.

**ANTH 675**  Credits 3  
**Evolutionary Medicine**  
This course provides an introduction to evolutionary medicine, a relatively new and exciting field that emphasizes the interplay between human evolutionary history, adaptation, and proximate mechanisms. Examples are drawn from societies around the world. Topics include growth, reproduction, diet, activity patterns, aging and infectious and chronic disease.
ANTH 685  Credits 3  Language and Culture  Examines the interaction of language and culture, focusing on basic aspects of linguistics, models for the study of language use, and intersections of language with gender, power, and status cross-culturally. **Notes:** Credit at the 600 level normally requires additional work.

ANTH 686  Credits 3  Language and Gender  Examines from an anthropological perspective the ways in which language and gender intertwine. Explores how language emerges from, reproduces, and challenges ideas of gender and gendered practices cross-culturally. Topics covered include interaction of gender with race, identity and class in language use.

ANTH 700A  Credits 1  Proseminar I  Orientation for entering anthropology graduate students. Presents the program's expectations and policies, and introduces students to faculty research and expertise within the department. **Grading:** S/F grading only. **Prerequisites:** Graduate standing/permission of instructor.

ANTH 700B  Credits 1  Proseminar II  Continuation of the orientation begun in ANTH 700A. Develops students' appreciation of professionalism and develops the skills necessary for academic presentations. Presents the current research of advanced anthropology graduate students. **Grading:** S/F grading only. **Prerequisites:** Graduate standing/permission of instructor.

ANTH 701  Credits 3  Directed Reading in Anthropological Literature  **Notes:** May be repeated to a maximum of six credits.

ANTH 703  Credits 3  Core Concepts in Anthropology  Course explores the intellectual foundations of critical thinking and practice in Anthropology (Cultural, Biological, Archaeology, and Linguistics). Examines anthropological theory as it has been manifested in studies of human evolution, cultural materialism, historical analysis, and cultural interpretation. **Prerequisites:** Graduate standing.

ANTH 704  Credits 3  Core Seminar II: Archaeology and Physical Anthropology  Advanced treatment of the data, concepts, and theories in archaeology and physical anthropology. **Prerequisites:** Graduate standing.

ANTH 730  Credits 3  Seminar in Linguistic Anthropology  Holistic approach to linguistic anthropology to examine how language reflects the culturally relative structure of experience, determines ethnic identities and social structures, tells about prehistoric connections between cultures, and influences the evolution of the human brain. **Prerequisites:** Graduate standing.

ANTH 735  Credits 3  Seminar on Classic Ethnographies  Classic ethnographies read in the original, selected to represent a wide range of culture types, culture areas, and theoretical perspectives. Broadens and deepens students' control of the professional database, while exploring how data support theoretical constructs and how theory in turn informs ethnographic methods and descriptions. **Prerequisites:** Graduate standing.

ANTH 736  Credits 3  Problems in North American Ethnology  Selected cases from Native North America used to learn logic and methods for resolving conflicts in ethnographic data and data interpretation. Impact of those arguments and decisions on significant current theoretical constructs pursued. **Prerequisites:** Graduate standing.

ANTH 741  Credits 3  Seminar in Cultural Processes  Theories of culture change on selected topics. **Notes:** Topics to be announced. May be repeated to a
maximum of 12 credits. **Prerequisites:** Consent of instructor.

**ANTH 742**  
**Credits 3**  
**Seminar on Material and Cognitive Approaches to Culture Change**  
Survey of complementary theoretical approaches to culture change, with a stress on materialist (Marxist, New Functionalist, classical economic, and ecological) and cognitive (structuralist, psychological) theoretical systems. Integration of approaches in analyzing culture change in a particular ethnographic situation.

**ANTH 743**  
**Credits 3**  
**Seminar in Method and Theory in Cultural Anthropology**  
Research and discussion of selected topics relating to data gathering, interpretation, or theoretical explanation in sociocultural anthropology. Specific topics and instructor vary. **Notes:** May be repeated to a maximum of six credits.

**ANTH 744**  
**Credits 3**  
**Identity, Culture and Power**  
Examines how transnational migration and globalization affect our understanding of identity, culture, and power relations. What is identity? Why isn't identity fixed? What is the relationship between the local and the global? Seminar explores these questions focusing on themes of identity, culture, and power.

**ANTH 745**  
**Credits 3**  
**Seminar on Native American Ethnohistory**  
Controversial issues in the ethnohistory of Native North America used to explore the relationship between data and interpretation. Student research projects develop specific skills in accessing public and rare documents to aid solution of ethnographic problems. **Prerequisites:** ANTH 432 and ANTH 301/ETS 301, or HIST 438 and HIST 439, or written consent of instructor.

**ANTH 746**  
**Credits 3**  
**Gender, Sexuality, Race and Flexible Citizenship**  
Analyzes how gender and sexuality converge with race and class, and how people negotiate gender, sexual and racial differences. Explores the concept of cultural citizenship among different ethnic groups in relation to sex/gender and race. **Prerequisites:** Graduate standing.

**ANTH 747**  
**Credits 3**  
**Seminar in Western North America**  
**Notes:** May be repeated to a maximum of six credits.

**ANTH 748**  
**Credits 3**  
**Seminar on Current Research in the Great Basin**  
State of current research on several problems currently being raised by Great Basin data in all subdisciplines of anthropology explored in order to investigate the relationship between data, generalization, abstraction, and theoretical interpretation. **Notes:** Attendance at the Great Basin Anthropological Conference require. **Prerequisites:** ANTH 423 or ANTH 623.

**ANTH 749**  
**Credits 3**  
**Archaeology of Colonialism in the Americas**  
Explores the archaeology and descendant experience of colonialism in the Americas. Examines archaeological, ethnohistoric, ethnographic, and oral historic data to explore the variability and patterns of the colonial process. **Prerequisites:** Permission of instructor.

**ANTH 751**  
**Credits 3**  
**Seminar on Current Problems in Archaeology**  
**Notes:** May be repeated to a maximum of six credits.

**ANTH 752**  
**Credits 3**  
**Seminar in Historic Archaeology: Current Trends**  
Examines current developments in historical and anthropological method and theory as applicable to the field.

**ANTH 753**  
**Credits 3**  
**Seminar in Cultural Adaptations to Arid Environments**
Addresses the problems of human cultural adaptations to arid environments, with special attention given to technological and social responses to these environments. **Prerequisites:** ACC 703 or ANTH 704.

**ANTH 754**  
**Credits 3**  
**Archaeology and Paleoeconomy of the Great Basin**  
Examines paleoenvironments and prehistory of the Great Basin and intermountain west, including Nevada and surrounding states. Issues include Pleistocene and Holocene paleoenvironmental reconstruction, Paleoindian and Archaic adaptations, Fremont culture, and spread of Numic-speaking populations. Field trip. **Prerequisites:** Graduate standing or consent of instructor.

**ANTH 755**  
**Credits 3**  
**Seminar in Archaeological and Historic Preservation**  
Management of archaeological resources; laws and policies protecting archaeological sites, methods of identification, and evaluation of archaeological resources; the interface of archaeological preservation and archaeology as a scientific discipline.

**ANTH 756**  
**Credits 3**  
**Archaeology of Hunter-Gatherers**  
Course examines hunter-gatherers throughout the world, focusing on paleoenvironment, land use, subsistence, and social interaction. **Prerequisites:** Consent of instructor.

**ANTH 757**  
**Credits 3**  
**Seminar in Southwestern Archaeology**  
Examines the prehistoric societies of the American Southwest, including the Hohokam, Mogollon, and Anasazi; issues include origins, social organization, subsistence, production, distribution and exchange, and the dynamics of change in the region. **Prerequisites:** ANTH 418 or consent of instructor.

**ANTH 758**  
**Credits 3**  
**Seminar in Agricultural Origins**  
Examines the circumstances surrounding the transition from hunting and gathering to food production throughout the world. Evaluates both the theoretical framework and empirical database for understanding this transition and the consequences of the shift to agricultural production.

**ANTH 759**  
**Credits 3**  
**Peopling of the Americas**  
Reviews current debates surrounding human colonization of North and South America during the Pleistocene, drawing upon archaeological, biological, and linguistic evidence. **Notes:** Field trip. **Prerequisites:** Graduate standing or consent of instructor.

**ANTH 761**  
**Credits 3**  
**Seminar on Current Thought in Physical Anthropology**  
Topics to be announced. **Notes:** May be repeated to a maximum of six credits. **Prerequisites:** Consent of instructor.

**ANTH 762**  
**Credits 3**  
**Laboratory Seminar on Osteology**  
'Hands-on' class relevant to research and analysis in human osteology and palaeopathology. Laboratory analysis of osteological and palaeopathology materials available in the Physical Anthropology Laboratory. Methods of age, sex, ethnic determinations, discrete morphological, anthropometric, and palaeopathological research and analysis. **Prerequisites:** ANTH 462.

**ANTH 763**  
**Credits 3**  
**Paleoanthropology**  
Current issues in and evidence for human biocultural evolution. Include finding, dating, and naming fossil hominids, the effect of climate on hominid evolution, as well as issues in paleobiology, functional anatomy, prehistoric archaeology, and geomorphology. **Prerequisites:** Consent of instructor.

**ANTH 764**  
**Credits 3**  
**Seminar: Medical Anthropology**  
Explores the evolution and cross-cultural understanding of human health, healing and disease. Includes extensive examination and critical evaluation of evolutionary, biocultural and culturally-
centered approaches in medical anthropology.  
**Prerequisites:** Consent of instructor.

**ANTH 770**  
Credits 3  
Quantitative Methods in Anthropology  
Provides practical introduction to the uses of computers for statistical analysis, data gathering and storage, computer modeling and computer-assisted instruction as applies in anthropology. Every student carries out one or more projects requiring the use of computers. **Prerequisites:** MIS 101 or CSC 115 or equivalent or consent of instructor.

**ANTH 775**  
Credits 3  
Native Americans and the Law  
Anthropological, historical, and legal study of the position of Native American tribes and persons, including federal policy, jurisdictional disputes, and current issues. **Prerequisites:** Graduate standing.

**ANTH 790**  
Credits 3  
Research Design, Professional Ethics, and Grant Writing for Anthropologists  
Class components include ethics relating to data acquisition and sharing, formulating cohesive and compelling research questions, and the mechanics of proposal preparation required in professional practice. All students will be required to prepare and present a research proposal. **Prerequisites:** Graduate standing or consent of instructor.

**ANTH 796**  
Credits 3  
Cultural Resource Management Internship  
Students work with an archaeologist both in field and office situations, focusing on identification and evaluation of sites; writing technical reports and examining the development of correspondence between federal agencies and contracting archaeologists. **Prerequisites:** One field class (ANTH 453, 485, 486) and one lab class (ANTH 452, 458) or one summer field school (ANTH 487, 488), senior or graduate standing and recommendation of UNLV faculty coordinator.

**ANTH 797**  
Credits 3 – 6  
Thesis  

**Notes:** May be repeated but only six credits will be applied to the student's program. **Grading:** S/F grading only.

**ANTH 798**  
Credits 3 – 12  
Dissertation  
**Notes:** May be repeated but only 12 credits will be applied to the student's program. **Grading:** S/F grading only.

**ANTH 799**  
Credits 1 – 3  
Independent Research  
**Notes:** May be repeated to a maximum of six credits.
English

Chair
Harp, Richard L.  
(1975), Professor; B.A., Ph.D., University of Kansas; M.A., Boston College.

Graduate Coordinator
Nagelhout, Edwin  
(2005), Associate Professor; B.A., California State University-Fullerton; M.A., Ph.D., Purdue University.

Unrue, Darlene Harbour  
(1972) Distinguished Professor; B.A., M.A., Marshall University; Ph.D., Ohio State University

Graduate Faculty
Becker-Leckrone, Megan  
(1999), Associate Professor; B.A., Bryn Mawr College; M.A., Ph.D., University of California, Irvine.

Bowers, John M.  
(1987), Professor; B.A., Duke University; M.A., Ph.D., University of Virginia; Master of Philosophy, Oxford University.

Brown, Stephen  
(2002), Professor; B.A., University of California, Santa Barbara, M.A., Ph.D., University of South Florida.

Campbell, Felicia Florine  
(1962), Professor; B.S., M.S., University of Wisconsin, Madison; Ph.D., United States International University, San Diego.

Decker, Christopher  
(2004), Associate Professor; B.A., Yale University; Ph.D., Cambridge University.

Erwin, Timothy  
(1990), Professor; A.B., Marquette University; M.A., Ph.D., University of Chicago.

Gajowski, Evelyn  
(1991), Professor; B.A., Cleveland State University; M.A., Ph.D., Case Western Reserve University.

Hafen, Jane  
(1993), Professor; B.A., M.A., Brigham Young University; Ph.D., University of Nevada, Las Vegas.

Harter, Carol  
(1995), Professor and President Emerita, University of Nevada, Las Vegas; B.A., M.A., Ph.D., SUNY Binghamton.

Irsfeld, John H.  
(1969), Professor; B.A., M.A., Ph.D., University of Texas.

Jablonski, Jeffrey  
(2000), Associate Professor; B.A., M.A., State University of New York College at Buffalo; Ph.D., Purdue.

Keelan, Claudia  
(1996), Professor; B.A., Humboldt State University; M.F.A., University of Iowa.

Marraouchi, Mustapha  
(2008), Professor; D.E.A., Université de Provence, France; Ph.D., University of Toronto.

Mays, Kelly J.  
(2001), Associate Professor; B.A., Emory University; Ph.D., Stanford University.

McCullough, Joseph B.  
(1969), Distinguished Professor; B. Ed., Gonzaga University; M.A., Ph.D., Ohio University.
Perez, Vincent  
(1999), Associate Professor; B.A., University of California, Santa Cruz; M.A., Ph.D., Stanford University.

Rosenberg, Beth Carole  
(1994), Associate Professor; B.A., Douglass College, Rutgers University; M.S., Ph.D., New York University.

Rusche, Philip  
(1998), Associate Professor; B.A., M.A., Emory University; M.A., M.Phil., Ph.D., Yale University.

Staggers, Julie  
(2006), Assistant Professor; B.A., University of Washington; M.A., Ph.D., Purdue University.

Stevens, Anne  
(2004), Associate Professor; B.A., University of Chicago; M.A., Ph.D., New York University.

Unger, Douglas  
(1991), Professor; B.A., University of Chicago; M.F.A., University of Iowa.

Tillery, Denise  
(2004), Associate Professor; B.A., Ph.D., University of New Mexico; M.A., University of North Carolina.

Unrue, John C.  
(1970), Professor; B.A., M.A., Marshall University; Ph.D., Ohio State University.

Whitney, Charles  
(1988), Professor; B.A., San Francisco State College; Ph.D., City University of New York.

Wiley, Richard

(1989), Professor; B.A., University of Puget Sound; M.A., Sophia University; M.F.A., University of Iowa.

**Professors Emeriti**

Adams, Charles L., Jr.  
(1960-1996), Emeritus Professor; B.A., Michigan State University; M.A., University of Illinois; Ph.D., University of Oregon.

Coburn, W. Leon  
(1969), Associate Professor; B.A., University of New Mexico; M.A., Ph.D., University of California, Davis.

Dodge, Robert K.  
(1970), Professor; B.A., Rice University; M.A., Ph.D., University of Texas.

Engberg, Norma J.  
(1969), Emerita Professor; B.A., George Washington University; M.A., University of Florida; Ph.D., University of Pennsylvania.

Geuder, Patricia  
(1966-1989), Emerita Professor; B.A., M.E., University of Nevada, Reno; Ph.D., University of New Mexico.

Hazen, James F.  
(1971), Emeritus Professor; B.A., Princeton University; M.S., Ph.D., University of Wisconsin.

Irsefeld, John H.  
(1969), Emeritus Professor; B.A., M.A., Ph.D., University of Texas.

Weinstein, Mark A.  
(1970), Emeritus Distinguished Professor; B.A., Cornell University; M.A., Ph.D., Yale University.

The Department of English offers programs of study leading to the Master of Arts, Master of Fine Arts, and Doctor of Philosophy degrees. The M.A.
program involves primarily course work at the graduate level in English and American literature or in language studies. A thesis is optional but is recommended for all students. Work toward this degree is designed to supplement and complete the student’s undergraduate study in the field of English and to familiarize the student with professional standards, methods of research, and modes of thought in the discipline. Possession of this degree normally leads to advancement in the teaching profession for the secondary school or community college teacher, to careers in writing, publishing and editing, or to further study in English at the doctoral level.

The M.F.A. program is designed to be a three-year, intensive studio arts terminal degree with a strong international emphasis and requires the writing of a booklength creative thesis in either fiction or poetry. The objectives of the M.F.A. degree are to enable the student to master the craft of writing in the chosen genre to a publishable level; to train the student in both traditional literary topics and in writing pedagogy to the end of a teaching career at the university, college, or community college level; and to provide for the student an international perspective on both the creation and publication of fiction or poetry and on the teaching and appreciation of literature.

The Ph.D. program is a highly specialized program designed to train students for careers in teaching at the college or university level and to develop in them a capacity for research, original thought, and writing that ordinarily accompanies such careers. The doctoral program is entirely focused on literary study; there is no language study or writing option in it. At the time of admission the student chooses three areas in which to specialize: (1) a chronological period, (2) a literary genre, and (3) either an additional chronological period, a major author chosen from outside of the selected chronological period and approved by the graduate committee, or a special topic approved by the graduate committee. All subsequent course work (which includes a minor in a field or fields related to English) is devoted to developing a high degree of professional competence and knowledge in the three chosen areas of specialization. Such knowledge is tested in qualifying examinations and is also the basis upon which the student writes a doctoral dissertation.

The department, in conjunction with the International Institute of Modern Letters, also offers a program leading to the degree of Doctor of Philosophy in English, with a Creative Dissertation. This program centers on the study of English and American literature and is designed to train students for the careers in teaching of English at the college or university level, as well as for careers in writing, editing, and publishing. The program of study includes course work in English and Creative Writing, a Qualifying Examination, and a creative Dissertation. Admission is for holders of an MA or MFA. Differences in the requirements for admission and degree requirements between the two Ph.D. programs are indicated below.

Programs
- Creative Writing M.F.A.
- English M.A.
- English Ph.D.

Creative Writing M.F.A.

Admission Requirements

Applicants for the M.F.A. in Creative Writing must submit a strong manuscript of either poetry or fiction for consideration, of approximately 10-15 pages for poetry and 20-30 pages for fiction. The primary consideration for admission is the quality of the manuscript as judged by the Creative Writing faculty. Also, candidates must send a letter of application to the Graduate Committee that includes a statement of purpose and reasons the applicant wants to study creative writing at the University of Nevada, Las Vegas.

A candidate must also meet the requirements of the Graduate College, including holding a B.A., B.S., or A.B. degree from an accredited college or university
with an undergraduate GPA of 2.75 or better. Applicants must send two official sets of transcripts from all colleges or universities attended; one set goes to the Graduate College and one directly to the English Department. In addition, two letters of recommendation must be sent directly to the department. There is a wide range of acceptability with regard to an applicant’s previous record of studies and major field of specialization as an undergraduate. But a candidate must score in the 50th percentile rank or higher on the Verbal portion of the General Test of the Graduate Record Examination to be eligible for admission.

Degree Requirements
The M.F.A. in Creative Writing requires 54 credit hours of course work, independent study, and the writing of a creative thesis in either fiction or poetry. Course work should include 12 credits of ENG 705 - Creative Writing, composed of nine credits in the chosen genre of concentration (either poetry or fiction) and three credits in another genre. Students will be expected to take at least nine credits of 700-level courses in World Literature, and at least nine credits of 600- or 700-level graduate courses offered by the Department of English. Also required are six credits of Independent Study: three credits for the completion of a significant translation of superior quality from a language other than English, and three credits for the writing of a substantial scholarly essay of at least 5,000 words on some aspect of a major world writer or field of literary study. In addition, six credits are required for the international focus of the M.F.A. (see below) and 12 credits for the completion of a book-length creative dissertation in either poetry or fiction.

International Emphasis
The strong international emphasis of the M.F.A. in Creative Writing requires all students to spend at least one semester abroad, in a non-English speaking country, and to earn at least six credits toward the M.F.A. by enrolling in a university, school, or institute abroad and/or by Independent Study guided and monitored by a member of the Creative Writing faculty. Applicants with strong experience and demonstrable study and residency in a non-English speaking country and with significant foreign language skills may be granted credit at the time of admission for the study abroad requirement at the discretion of the Creative Writing faculty and of the Graduate College.

Creative Thesis
All candidates for the M.F.A. degree are required to write a creative thesis in either poetry or fiction and to complete at least 12 credits toward the creative thesis requirement by intensive work in conference with members of the faculty. The creative thesis for the M.F.A. will be a book-length manuscript and must conform to the guidelines set forth by the Graduate College in this catalog and in its Thesis and Dissertation Manual. The M.F.A. creative thesis will only be passed and the M.F.A. degree granted when the creative thesis is judged to be a substantial creative work of high seriousness and literary merit in the opinion of the Creative Writing faculty and the student’s creative thesis committee.

English M.A.
Admission Requirements
A candidate must meet the requirements of the Graduate College, including holding an undergraduate GPA of 2.75 or better. Applicants must send two official sets of transcripts from all universities attended; one set goes to the Graduate College and one directly to the English Department. Also, two letters of recommendation must be sent directly to the department. The department also requires a minimum of 21 credits in English courses that are above Freshman Composition level. Also, students must score in the 50th percentile rank or higher on the Verbal portion of the General Test and in the 25th percentile rank or higher on the Literature in English Subject Test of the Graduate Record Examination. Candidates for admission need not have been English majors but should show on the transcript a generally superior performance in English courses.

Degree Requirements
These vary somewhat according to the option chosen (see below), but in general the M.A. program involves 30-33 credit hours of course work, demonstrated competency in the reading of one foreign language, and successful performance on a comprehensive examination. Students who did not take History of the English Language (ENG 415 or 615) as an undergraduate must include it in their graduate degree program. A master’s thesis, which carries six credits, is optional. Nine credits of the course work must be in literary periods before 1800, nine credits in literary periods after 1800, and the remainder of the credits may be in any period or area.

ENG 791 - College Teaching in Language and Literature, is required of new graduate assistants, does not count toward fulfilling the credit hours requirement.

Options
Students may emphasize literary study or language study in their degree programs. The exact requirements for these options or tracks within the M.A. program are stated in a document obtainable from the Director of Graduate Study.

Thesis
A master’s thesis, which carries six credits, is optional but recommended for all M.A. candidates. It is normally written during two consecutive semesters and must conform to the guidelines set forth by the Graduate College in this catalog and in its Thesis and Dissertation Manual. The M.A. thesis should be an original contribution to knowledge about a suitable literary or linguistic subject and comprise about seventy-five pages. Thesis projects must be designed, developed, and written in close consultation with an appropriate thesis advisor and with the student’s thesis committee. A statement showing in more detail the specific degree requirements of the M.A. program is available from the Director of Graduate Study.

Degree Requirements
1. A total of 30 credits of approved course work beyond the M.A. degree, as follows:
   a. Twenty-four credits in English with grades of B or better, including: ENG 703 - Survey of Literary Criticism and Theory, required for students who have not taken an equivalent graduate-level course. Of the required 24 credits, at least 18 credits must be taken at the 700-level. Students writing a Creative Dissertation must take 24 credits in non-Creative Writing English in English and American literature on the graduate transcript and a graduate GPA of 3.50 or better. Applicants must send two sets of official transcripts from all universities attended; one set goes to the Graduate College and one directly to the English department. Students wishing to enter the Creative Writing Track may possess either an M.A. in English as stated above or an M.F.A. in Creative Writing from an accredited institution.
   2. Candidates must score in the 75th percentile rank or higher on the Verbal portion of the General Test and in the 50th percentile rank or higher on the Literature in English Subject Test of the Graduate Record Examination.
   3. Three letters of recommendation specifically for Ph.D. study from professors of English.
   4. Two or three writing samples totaling at least 30 pages of literary criticism, history or analysis and offering substantial evidence of the student’s ability to do work at the doctoral level. Students wishing to enter the Creative Writing Track must submit a 50-page (or longer) writing sample of the candidate’s creative work, to be read and judged by the Creative Writing faculty.
   5. A letter of application to the Graduate Committee stating the applicant’s reasons for wanting to enter the program and the intended areas of specialization.

English Ph.D.
Admission Requirements
1. Possession of an M.A. in English from an accredited institution with at least 21 credits
classes. This may include:
ENG 729 - Forms of Fiction or Poetry, to be taken only once.

b. Six credits in an approved minor at the graduate level outside the department or in Composition Studies, with grades of B or better.

2. Reading knowledge of two foreign languages or proficiency in one. Students in the Creative Writing track demonstrate a reading knowledge of one foreign language.

3. Superior performance on qualifying examinations in the student’s three areas of specialization. These examinations consist of three four-hour written exams: one in the historical period of specialization, one in the genre of specialization, and a third in either an additional chronological period, a major author approved by the graduate committee, or a special topic approved by the graduate committee, and a two-hour oral examination.

4. Doctoral dissertation involving original thought and superior scholarship on a topic or author in British, American, or third-world literature in English. The Creative Dissertation involves an original work of fiction or poetry of high quality and substantial length. (18 credits).

The total credits for course work and dissertation are a minimum of 48 beyond the M.A. degree. Courses taken to make up deficiencies or to fulfill the requirement in foreign languages (unless the minor is in a foreign literature) do not count in this total.

A brochure outlining in more detail the admission and degree requirements of the Ph.D. program, including the foreign language requirement, the possible areas of specialization, the minor, the Qualifying Examination, and a representative course of study, is available from the Director of Graduate Study.

ENG 601A Credits 3
Advanced Composition
Explores writing and literacy. Students will develop greater awareness of themselves as strategic writers by studying and creating texts for different audiences, purposes and contexts in a variety of styles and genres.

ENG 602A Credits 3
Advanced Creative Writing II
Advanced workshop designed to hone students' skills in writing fiction or poetry.

ENG 605B
Research and Editing
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 605C
Writing For Publication
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 607B Credits 3
Fundamentals of Technical Writing
Examines the rhetorical principles and composing practices necessary for writing effective technical documents and the role of writing in technical and industrial settings.

ENG 608A
Tutorial Techniques in English
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 609A
Visual Rhetoric
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**ENG 609B**
*Rhetoric and the Environment*
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**ENG 611A**
*Advanced Linguistics*
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**ENG 611B**
*Principles of Modern Grammar*
Credits 3
Surveys the structure of contemporary English grammar. Examines the workings of the English language from a linguistic perspective, concentrating primarily on sentence structure.

**ENG 612C**
*Seminar in Language and Cognition*
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**ENG 614A**
*History of the English Language*
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**ENG 614B**
*Development of American English*
Credits 3
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credits at the graduate level normally requires additional work.

**ENG 614C**
*Old English II*
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**ENG 615B**
*Old English I*
Credits 3
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at 600 level normally requires additional work.

**ENG 616A**
*Special Problems in English*
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**ENG 616C**
*Special Problems in English*
Credits 1-6
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum:
ENG 620A
Survey of Literary Criticism
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 625A
Themes of Literature
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 626A
Religion and Literature
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 626B
Mythology
Study of mythologies, such as Greek, Roman, and Native American, in cultural context.

ENG 627B
Gender and Literature
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 629A
Early American Humor
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 629B
Modern American Humor
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 629C
Literature of the American West
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 630A
Major Figures in British Literature
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 632A
Chaucer
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 634A
Shakespeare: Tragedies
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**ENG 634B**  
**Shakespeare: Comedies and Histories**  
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**ENG 635A**  
**Milton**  
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**ENG 636A**  
**Major Figures in American Literature**  
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**ENG 640A**  
**Medieval English Literature**  
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**ENG 640B**  
**Gender and Early Literature**  
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**ENG 641A**  
**The Renaissance**  
Study of English literature of the sixteenth century, primarily Elizabethan.

**ENG 641B**  
**Gender and Renaissance Literature**  
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**ENG 642A**  
**The Seventeenth Century**  
Study of English literature from 1603 to 1660.

**ENG 643A**  
**Restoration and Augustan Literature**  
Study of British literature from 1660 to 1740. Topics may include the genres of neoclassical drama and mock-epic, satire from Dryden through the Scriblerians, the periodical essay, and the birth of aesthetics.

**ENG 643C**  
**Later Eighteenth Century**  
Study of eighteenth-century British literature after 1740. Topics may include the growth in female authorship, the Johnson circle, and cultural contexts such as feminism and nationalism.

**ENG 644B**  
**The Romantic Poets**  
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.
ENG 645B  
**Victorian Poetry**  
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 645C  
**Nineteenth-Century Prose Writers**  
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 646A  
**Modern British Literature**  
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 646B  
**Gender and Modern British Literature**  
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 652A  
**Credits 3**  
**American Literature, 1620-1800**  
Study of American writing through 1800.

ENG 652B  
**American Literature, 1800-1865**  
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 653A  
**American Literature, 1865-1918**  
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 653B  
**American Literature, 1918-Present**  
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 654B  
**Gender and Modern American Literature**  
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 660  
**Credits 3**  
**The American Short Story**  
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.  
**Notes:** Credit at the 600-level requires additional work.

ENG 660A  
**Heroic Epic**  
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be
found in the Undergraduate Catalog under the corresponding 400 number.

ENG 661A
The Study of Poetry and Poetics
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 662A
Modern British Poetry
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 662C
Modern American Poetry
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 663A
Classical Drama in Translation
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 664A
English Drama to 1642
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 665B
Credits 3
Restoration and Eighteenth-Century Drama
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600-level requires additional work.

ENG 666A
Credits 3
Nineteenth-Century Drama
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 667A
Modern British Drama
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 667B
Modern American Drama
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 670A
Credits 3
The British Novel I
Study of the British novel from its origins to about 1800. Topics may include the rise of the novel from the materials of romance and realism, the formative decade of the 1740s, and the sub genres of Gothic and historical fiction.
The British Novel II
Study of the British novel from about 1800 to 1914. Topics may include the role of serialization and circulating library and sub genres such as the bildungsroman, the social-problem novel, and imperial Gothic.

ENG 671A
Modern English Novel
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 671B
Contemporary English Novel
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 673A
The Early American Novel
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 673B
The Modern American Novel
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 673C
The Contemporary American Novel
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 677A
Credits 3
Film and Literature
Comparative study of the relations of prose, poetry, and drama to the structure and themes of the cinema, from Dickens to the present.

ENG 678A
Folklore and Literature
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 678B
American Folklore
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 678C
Special Topics in Folklore
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

ENG 684A
Credits 3
The Bible as Literature
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the
corresponding 400 number. **Notes:** Credit at the 600 level requires additional work.

**ENG 685A**  
*Asian Literature*  
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**ENG 686A**  
*Postcolonial Theory*  
Examines the significance of the Other in ex-colony. Reflects of colonialism, independence, subordination, hybridity, resistance, and ideology. Frantz Fanon, C.L.R. James, Edward Said, Homi Bhabha, Gayatri Spicak, Malcolm X, Stephen Greenblatt, among others, will be considered. **Notes:** Work at the 600 level usually requires additional work. **Prerequisites:** Any of the following: ENG 101 and ENG 102.

**ENG 686B**  
*Postcolonial Literature*  
Probes literature from the ex-colony: Africa, the Caribbean, Ireland, India, America, Canada, Australia. V.S. Naipaul, Derek Walcott, Wole Soyinka, Saman Rushdie, Jamaica Kincaid, Toni Morrison, Claude McKay, Maya Angelou, David Dabydeen, Chinua Achebe, among others, will be considered. **Notes:** Courses at the 600 level normally require additional work. **Prerequisites:** ENG 101 and ENG 102.

**ENG 691B**  
*Environmental Literature*  
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600 level requires additional work.

**ENG 694A**  
*Native American Literature*  
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**ENG 695A**  
*Early African-American Literature*  
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**ENG 695B**  
*Modern African-American Literature*  
This undergraduate course, when taught by a member of the graduate faculty, may be used toward graduate degrees with the permission of advisor (maximum: six credits). A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**ENG 700**  
*Bibliography and Methods*  
Bibliography, reference tools, introduction to scholarly methods, modern research techniques in language and literature, preparation and presentation of documented investigation. **Notes:** To be taken in the student's first year of graduate study.

**ENG 701**  
*Contemporary Composition Theory*  
Theories that underline contemporary composition as a discipline and a profession, including the practical implications of literacy as it relates to college writing instruction, administration, and practice. **Prerequisites:** Graduate standing.

**ENG 702**  
*History of Rhetoric and Composition*  
Survey of ancient, medieval, Renaissance, enlightenment, and twentieth-century texts that establish terminologies and raise issues still vital to
the theory and practice of composition and language study today. **Prerequisites:** Graduate standing.

**ENG 703**  
**Credits 3**  
**Survey of Literary Criticism and Theory**  
Surveys criticism and theory from Plato to contemporary trends. Provides historical perspective on the toolbox of theoretical approaches to literature vital in literary studies today. Emphasis may vary from year to year. **Notes:** Required for Ph.D. Students. **Prerequisites:** Graduate standing.

**ENG 704**  
**Credits 3**  
**Theory and Practice of Textual Editing**  
Examination of theories of scholarly editing. Topics include: variant and critical editions, textual recension, rationale for copy text, emendation, annotation, and copy editing. Students work on editions in progress, as well as journals sponsored by the department.

**ENG 705**  
**Credits 3**  
**Creative Writing**  
Advanced study and practice of creative methods. **Notes:** May be repeated to a maximum of twelve credits. **Prerequisites:** Admission to the M.F.A. program or consent of instructor.

**ENG 706**  
**Credits 3**  
**Gender and Interpretation**  
Study of gender as a category of analysis within the discipline of English studies.

**ENG 711**  
**Credits 3**  
**Studies in Language**  
Introduction to advanced study of language based on sequence of problems involving such procedures as the history of language, etymology, structural linguistics, and linguistic geography. **Notes:** May be repeated to a maximum of six credits. **Prerequisites:** Consent of instructor.

**ENG 712**  
**Credits 3**  
**Studies in Modern Grammar**  
Examination of important current approaches to grammatical descriptions, especially of English. **Notes:** May be repeated to a maximum of six credits.

**ENG 714**  
**Credits 3**  
**Studies in Rhetoric and Composition**  
Intensive study of selected topics in composition and rhetorical theory. Topics and reading lists will vary from semester to semester. **Notes:** May be repeated to a maximum of six credits.

**ENG 715**  
**Credits 3**  
**Theory of Translation**  
Readings in the theory of translation, as well as textual analysis of existing translations to and from several different languages. **Notes:** Taught in English. **Prerequisites:** Advanced knowledge of one foreign language, consent of instructor.

**ENG 716**  
**Credits 3**  
**Workshop in Translation**  
Explores problems inherent in the translation of foreign texts; completion of individual and group projects, with assistance of instructor. **Notes:** May be repeated to a maximum of six credits. **Prerequisites:** Advanced knowledge of one foreign language, consent of instructor.

**ENG 719**  
**Credits 3**  
**Area Linguistics**  
Historical overview of area linguistics, with emphasis on principles of dialectology in the English speaking world and the principles of linguistic atlases in the United States and Canada.

**ENG 720**  
**Credits 3**  
**Studies in Medieval Literature**  
Intense study of selected topics in medieval literature. **Notes:** May be repeated to a maximum of six credits.

**ENG 722**  
**Credits 3**  
**Studies in Chaucer**  
Study of major works of Geoffrey Chaucer in relation to their medieval literary and cultural context. **Prerequisites:** Graduate standing or consent of instructor.

**ENG 723**  
**Credits 3**  
**Studies in the Renaissance**
Intensive study of selected topics in sixteenth-century literature. Notes: May be repeated to a maximum of six credits.

**ENG 724**  Credits 3  
**Studies in Early Seventeenth-Century Literature**  
Intensive study of selected literary topics in early seventeenth-century literature. Notes: May be repeated to a maximum of six credits.

**ENG 725**  Credits 3  
**Studies in Shakespeare**  
Intensive study of selected works of Shakespeare, with emphasis on genre, theme, or chronological grouping. Notes: May be repeated to a maximum of nine credits.

**ENG 728**  Credits 3  
**Studies in Milton**  
Study of the major works of John Milton in relation to their Renaissance literary and cultural context. Prerequisites: Graduate standing or consent of instructor.

**ENG 729**  Credits 3  
**Forms of Fiction or Poetry**  
Close reading and literary analysis. Topics and reading lists vary from semester to semester. Notes: May be repeated to a maximum of nine credits.

**ENG 731**  Credits 3  
**Studies in Restoration and Eighteenth-Century British Literature**  
Intensive study of selected literary topics in Restoration and eighteenth-century British literature. Notes: May be repeated to a maximum of six credits.

**ENG 734**  Credits 3  
**Studies in English Romanticism**  
Intensive study of selected literary topics in the English romantic period.

**ENG 735**  Credits 3  
**Studies in Victorian Literature**  
Intensive examination of selected topics in Victorian literature. Notes: May be repeated to a maximum of six credits.

**ENG 738**  Credits 3  
**Studies in Modern British Literature**  
Modern literature studies with emphasis upon movements which center in Great Britain. Notes: May be repeated to a maximum of six credits.

**ENG 739**  Credits 3  
**M.F.A. Translation**  
Students translate a short story, group of poems, or other work by a foreign writer. Notes: Open only to students in the M.F.A. Program who have passed the qualifying oral examination. FOL 717 may substitute for ENG 739. Prerequisites: Successful completion of the oral qualifying exam.

**ENG 742**  Credits 3  
**Studies in Early American Literature**  
Intensive study of selected subjects in colonial or romantic American literature, such as the work of a few important literary figures, a group of related writers, or a literary movement. Notes: May be repeated to a maximum of six credits.

**ENG 743**  Credits 3  
**Studies in Later American Literature**  
Intensive study of selected topics in late nineteenth- and early twentieth-century literature. Notes: May be repeated to a maximum of six credits.

**ENG 744**  Credits 3  
**Studies in Modern American Literature**  
Intensive study of selected topics in contemporary literature. Notes: May be repeated to a maximum of six credits.

**ENG 749**  Credits 3  
**M.F.A. Critical Essay**  
M.F.A. students' individual investigation of an American or foreign novelist or poet using various critical methodologies. Prerequisites: Acceptance to the M.F.A. Program.

**ENG 760**  Credits 3  
**Studies in Literary Genres**
Intensive study of a literary genre, with particular attention to its history and development. Notes: May be repeated to a maximum of nine credits.

**ENG 775**  
**Credits 3**  
**Studies in Literary Criticism**  
Intensive study of selected major critical theories or a selected problem in the philosophy of criticism. Notes: May be repeated to a maximum of six credits.

**ENG 787**  
**Credits 3**  
**Studies in Modern Comparative Literature**  
Modern literature studies with the emphasis upon international movements. Notes: May be repeated to a maximum of six credits.

**ENG 790**  
**Credits 3 – 12**  
**M.F.A. Thesis**  
Open only to students in the M.F.A. program who have passed the qualifying oral examination. Students write a book-length manuscript of fiction or poetry. Notes: May be repeated but only a maximum of 12 credits may be applied to the student's degree program. Grading: S/F grading only. Prerequisites: Successful completion of the oral qualifying exam.

**ENG 791**  
**Credits 3**  
**College Teaching in Language and Literature**  
Theory and practice in the teaching of English in college, particularly the first-year course. Notes: Required of all graduate assistants.

**ENG 792**  
**Credits 3**  
**Directed Studies in Language**  
Individual investigation of a language problem in Old, Middle, or Modern English including contributions of other languages using the various methodologies of descriptive linguistics. Notes: May be repeated to a maximum of nine credits. Prerequisites: Consent of instructor.

**ENG 794**  
**Credits 3 – 6**  
**Independent Study - International Focus**  
Studies foreign cultures and languages in a non-English speaking setting. M.F.A. requirement which may be taken in lieu of registration in a foreign university. Notes: May be repeated to a maximum of six credits. Prerequisites: Acceptance to the M.F.A. Program.

**ENG 795**  
**Credits 3**  
**Seminar**  
Topics vary from semester to semester. Notes: May be repeated to a maximum of nine credits.

**ENG 796**  
**Credits 1 – 3**  
**Independent Study**  
Open to students only upon approval of a written prospectus of the work to be done. Notes: Normally limited to three credits on the M.A. program of study.

**ENG 797**  
**Credits 3 – 6**  
**Thesis**  
Notes: May be repeated but only six credits will be applied toward the student's program. Grading: S/F grading only.

**ENG 798**  
**Credits 1 – 3**  
**Doctoral Research**  
Independent study for graduate students in the Ph.D. program upon approval by the dissertation advisor of a written prospectus of the work to be done. Notes: Normally limited to six credits on the doctoral program of study. Prerequisites: Admission to Ph.D. program and consent of graduate director.

**ENG 799**  
**Credits 3 – 9**  
**Dissertation**  
Open only to Ph.D. students who have passed the qualifying examination. Notes: May be repeated but only a maximum of 18 credits maybe applied towards degree. Prerequisites: Consent of graduate director.
Foreign Languages

Chair

Buechler, Ralph
(1989), Associate Professor; B.A., Washington University; M.A., M.A.S., University of Illinois; Ph.D., University of Wisconsin, Madison.

Graduate Coordinator

Bellver, Catherine G.
(1972), Distinguished Professor; B.A., Northwestern University; M.A., Ph.D., University of California, Berkeley.

Graduate Faculty

Arteaga, Deborah L.
(1992), Professor; B.A., Wichita State University; M.A., University of Colorado, Boulder; Ph.D., University of Washington.

Bao, Ying
(2008), Assistant Professor; B.A., Jiangxi University; M.A., Nanjing Normal University; M.A., Ohio State University; Ph.D., Ohio State University.

Galindo, Jorge
(1997), Associate Professor; Licenciatura, Letras Españolas Instituto Tecnológico de Monterrey; M.A., New Mexico State University; Ph.D., University of Kansas.

Harp, Margaret R.
(1989), Associate Professor; B.A., Newcomb College; M.A., Ph.D., Tulane University.

Jara, Margarita
(2006), Assistant Professor; Licenciatura, Pontificia Universidad Católica del Perú; M.A., Ph.D. University of Pittsburgh.

Natale, Giuseppe
(2000), Associate Professor; Laurea in Lettere, Universita de Torino; M.A., Ph.D., University of Washington.

Rico, Alicia
(2001), Associate Professor; Licenciatura, Universidad de Alicante, Spain; M.A., Ph.D. University of Kansas.

Takemaru, Naoko
(2003), Assistant Professor; M.A., Michigan State; M.A., Monterey Institute of International Studies; Ph.D., Claremont Graduate University.

Professors Emeriti

Koester, Rudolf
(1969-2000), Emeritus Professor; B.A., M.A., University of California, Los Angeles; Ph.D., Harvard University.

Schmiedel, Donald
(1965-1999), Emeritus Associate Professor; B.A., Kent State University; M.A., Ph.D., University of Southern California.

The focus on language, literature, and culture in the Spanish M.A. program offers a variety of study options in order to meet the growing demand for students who seek to acquire not only a humanistic preparation in a second language but also the necessary tools for an important practical application of a second language to their future careers. These could include areas such as public and private school teaching, communications, business, law, medicine, or further graduate studies at another institution of higher learning. Enrollment in small seminars allows students to interact easily with peers and create productive mentor relationships with the faculty.

Programs

- Foreign Languages M.A.
- Spanish, Hispanic Studies M.A.
Foreign Languages M.A.

Admission Requirements
Candidates for admission to the graduate program in foreign languages should have the equivalent of the UNLV undergraduate major in the corresponding language with a minimum grade point average of 3.00 in the major field. In some cases, a student who has a bachelor’s degree in another discipline could be admitted to the program upon the recommendation of the department graduate advisor. Possible transfer credit will be determined by the graduate coordinator in accordance with the policies of the Graduate College.

To apply for admission, submit to the Graduate College an application and official transcripts of all college-level work. Two letters of recommendation, a statement of goals, and official transcripts of all college-level work should be sent directly to the department.

Spanish, Hispanic Studies M.A.

The M.A. program in Spanish is flexible, allowing students to concentrate on culture, language, literature, and translation. The program aims to meet the needs of students interested in teaching and other professions. Before acceptance into the program, students will take a pre-qualifying examination administered by the department that will test their Spanish language skills. Students must pass this examination before being officially admitted to the M. A. program. The exam may be retaken once.

Requirements
The 33-hour program includes 9 hours of required graduate course work in Spanish encompassing three areas:
Current Issues in Second Language Acquisition FOL 714
or
Seminar in Spanish Linguistics SPAN 717
plus
Textual Analysis SPAN 720
Writing Workshop SPAN 709

These courses must be taken in the department. A variety of courses in language, linguistics, literature, and culture will be offered to allow students to complete their degree.

Students may apply a maximum of 9 credits at the 600 level to their graduate program. Upon departmental approval, students may take 6 of their total credits at the graduate level outside the department in an area relevant to their chosen concentration. Students taking the written examination option must include SPAN 798 in their program, while those following the project option must take six credits of SPAN 797.

Courses taken for graduate credit may not be repeated, with the exception of SPAN 730 and SPAN 740, provided that topics change. Graduate courses may not be audited without the consent of the instructor. A grade below a B- will place a student on probation. A second grade below a B- will cause a student to be separated from the program.

Final Examination
Written Examination
Students will take a written Master’s Examination. Students choosing the written examination option must include SPAN 798 in their program. After completing 21 credits, students, in consultation with the graduate coordinator, will choose for their examination three of the following six areas of concentration: Peninsular culture, Latin American culture, linguistics, Peninsular literature, Latin American literature, and translation theory. Once these areas are chosen they may not be changed, nor may the option be changed. The exam will be based on the courses taken as well as on a supplementary list of readings for each area available in the department. The exam will include three 90-minute sections drafted by the examination committee. Grammatical accuracy will also be a graded component of the exam. After passing all three parts of the written exam, students will take an oral examination covering these chosen areas. Students who do not pass any part(s) of the exam will be allowed to retake the failed part(s) only once. Students who do not pass all three parts and
the oral examination the second time will be separated from the program.

**Final Project Option**

Students with at least a 3.8 GPA may (upon the approval of the Spanish graduate coordinator) substitute a final project (six credits of SPAN 797) for the written examination. Before initiating the project, students will establish a three-member faculty examination committee and secure their approval of the project proposals. If the proposal is rejected twice, the student must take the written examination option. When accepted projects are completed, students will take the Final Examination, an oral examination covering the final project. The committee shall consist of the project director, two other members of the graduate faculty, and the graduate faculty representative. Students whose projects are not acceptable for defense will be allowed to resubmit their project the following semester. Students who do not secure approval the second time will be separated from the program. More detailed guidelines will be distributed to enrolled students.

**FOL 614**  
**Romance Linguistics**

Graduate credit (12 credits maximum) may be obtained for courses designated 650 or above when taught by graduate faculty. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600-level requires additional work.

**FOL 699**  
**Application of Linguistics to the Teaching of Languages**

Graduate credit (12 credits maximum) may be obtained for courses designated 650 or above when taught by graduate faculty. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600-level requires additional work.

**FOL 714**  
**Credits 3**  
**Current Issues in Second Language Acquisition**

Investigates current issues in theoretical studies of second language acquisition, and a comparison of L1/L2 acquisition in light of recent developments in linguistic theory and empirical studies. Provides overview of major subdisciplines, issues and approaches.

**FOL 715**  
**Credits 3**  
**Theory of Translation**

Readings in the theory of translation, as well as textual analysis of existing translations to and from several different languages. **Notes:** Taught in English. **Prerequisites:** Graduate student with advanced knowledge of one foreign language, consent of instructor.

**FOL 716**  
**Credits 3**  
**Workshop in Translation**

Explores problems inherent in the translation of foreign texts, works on individual and common projects with assistance of instructor. **Notes:** May be repeated to a maximum of six credits. **Prerequisites:** Graduate student with advanced knowledge of one foreign language, FOL 715, consent of instructor.

**FOL 717**  
**Credits 3**  
**Independent Studies in Translation**

Opportunity to pursue an individualized course or project in translation studies. **Notes:** May be repeated to a maximum of six credits. **Prerequisites:** Graduate student with advanced knowledge of one foreign language, FOL 715, FOL 716, consent of instructor.

**FRE 621**  
**Literature of the Middle Ages**

Graduate credit (12 credits maximum) may be obtained for courses designated 650 or above when taught by graduate faculty. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600-level requires additional work.
FRE 632  
**Renaissance Literature**  
Graduate credit (12 credits maximum) may be obtained for courses designated 650 or above when taught by graduate faculty. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600-level requires additional work.

FRE 650  
**History of the French Language**  
Graduate credit (12 credits maximum) may be obtained for courses designated 650 or above when taught by graduate faculty. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600-level requires additional work.

FRE 653  
**French Institutions and Cultural Life**  
Graduate credit (12 credits maximum) may be obtained for courses designated 650 or above when taught by graduate faculty. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600-level requires additional work.

FRE 654  
**The Arts in France**  
Graduate credit (12 credits maximum) may be obtained for courses designated 650 or above when taught by graduate faculty. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600-level requires additional work.

FRE 655  
**The Culture of Paris**  
Graduate credit (12 credits maximum) may be obtained for courses designated 650 or above when taught by graduate faculty. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600-level requires additional work.

FRE 690  
**Selected Topics of French Literature**

Graduate credit (12 credits maximum) may be obtained for courses designated 650 or above when taught by graduate faculty. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600-level requires additional work.

FREN 701  
**Credits 3**  
**Methods of Literary Research and the Writing of Essays**  
Bibliography and documentation including the techniques of the dissertation francaise (three-part essay).

FREN 702  
**Credits 3**  
**French Literary Criticism**  
History of literary criticism from the Renaissance to the present. Theories and techniques of twentieth-century literary criticism emphasized.

FREN 703  
**Credits 1 – 3**  
**Guided Reading and Research**  
**Notes:** May be repeated for up to six credits.

FREN 704  
**Credits 3**  
**Selected Topics in French Literature**  
Study of a particular literary theme or individual writer as chosen by the professor. Topics vary. **Notes:** May be repeated for credit.

FREN 722  
**Credits 3**  
**The Courtly Romance**  
Studies origins and variations of French courtly romance. Close analysis of prevalent themes and stylistic found in works of Marie de France, Chretien de Troyes, and Guillaume de Lorris. **Prerequisites:** Graduate standing or consent of instructor.

FREN 741  
**Credits 3**  
**The Development of the French Novel**  
Evolution of the novel as a genre, from Chretien de Troyes to contemporary writers. **Notes:** Taught in French.

FREN 742  
**Credits 3**  
**The Evolution of French Theater**
Study of the development of the dramatic arts in France. **Notes:** Taught in French.

**FREN 743**  
Credits 3  
The Evolution of French Poetry  
Evolution of poetry, from the troubadours to contemporary French poets. **Notes:** Taught in French.

**FREN 755**  
Credits 3  
Studies in Francophone Culture  
Presentation of French speaking cultures outside metropolitan France. **Notes:** May be repeated for up to six credits. Taught in French.

**FREN 792**  
Credits 3  
Studies in Francophone Literature  
Study of principal works in Francophone literature. **Notes:** May be repeated for up to six credits. Taught in French.

**SPAN 650**  
Advanced Topics in Hispanic Literature  
Graduate credit (12 credits maximum) may be obtained for courses designated 650 or above when taught by graduate faculty. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600-level requires additional work.

**SPAN 696**  
Spanish Dialectology  
Graduate credit (12 credits maximum) may be obtained for courses designated 650 or above when taught by graduate faculty. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600-level requires additional work.

**SPAN 703**  
Guide Reading and Research  
**Notes:** May be repeated to a maximum of six credits.

**SPAN 708**  
Teaching Literature in Language Classes  
Investigation of concerns related to integration of short stories into Spanish language skill classes. Variety of pedagogical resources and techniques explored. Students acquire a collection of teaching ideas, materials and strategies. **Notes:** Taught in Spanish.

**ITAL 603**  
Advanced Reading Proficiency in Italian  
Graduate credit (12 credits maximum) may be obtained for courses designated 650 or above when taught by graduate faculty. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600-level requires additional work.

**SPAN 709**  
Writing Workshop  
Enhance students' writing skills in Spanish. Some grammar issues reviewed. Analyzes writing techniques for different texts such as reports, summaries, reviews and analytical papers. Students apply these techniques to their own assignments.  
**Notes:** Taught in Spanish. **Prerequisites:** Successful completion of departmental Spanish language exam.

**ITAL 662**  
Dante's Divine Comedy  
A select reading in the Divine Comedy with some reference to Dante's other works, Convivio, Monarchia, and Vita Nuova. **Notes:** Taught in English.

**SPAN 710**  
Studies in the Spanish Language  
Current approaches to topics related to the Spanish language. **Notes:** May be repeated with different topics to a maximum of six credits. Taught in Spanish. **Prerequisites:** SPAN 717 or consent of instructor.

**SPAN 713**  
Spanish Sociolinguistics  
Overview of the varied manifestations of the Spanish language. Topics include regional variation, social variation, code-switching, and bilingualism. **Notes:**
Taught in Spanish. **Prerequisites:** SPAN 717 or consent of instructor.

**SPAN 716**  
**Credits 3**  
**Romance Linguistics**  
Linguistic development of Latin into the different Romance languages and dialects, with background of social and cultural history of the Romance-speaking area.

**SPAN 717**  
**Credits 3**  
**Seminar in Spanish Linguistics**  
Introduction to structure of the Spanish language within framework of theoretical linguistics. Topics covered include analysis of Spanish sound system, word formation processes, and sentence structure. **Notes:** Taught in Spanish.

**SPAN 720**  
**Credits 3**  
**Textual Analysis**  
Introduction to textual criticism, based on broad concept of text used by current theoretical trends. Theoretical approaches include Russian Formalism to Postmodernism and application to different texts such as film, architecture, comics, commercial ads, TV programs, fashion and literary texts. **Notes:** Taught in Spanish.

**SPAN 730**  
**Credits 3**  
**Studies in Hispanic Culture**  
Study of aspects of culture reflected in works of scholars, writers, artists, and the mass media. **Notes:** May be repeated with different topics for a maximum of six credits. Taught in Spanish.

**SPAN 740**  
**Credits 3**  
**Studies in Hispanic Literature**  
Covers selected works in Hispanic literature which reflect prominent cultural trends. Texts studied may represent historical periods, a literary genre, or a single important author. Variety of critical perspectives and overview of the sociopolitical environment incorporated. **Notes:** May be repeated with different topics. Taught in Spanish.

**SPAN 770**  
**Credits 3**  
**Studies in Translation**  
Offers access to wide range of topics in Spanish-English translation. Focuses on a specific area, such as the translation of cultural difference or the formal problems involved in the translation of poetry. **Notes:** May be repeated a maximum of six credits. Taught in Spanish. **Prerequisites:** SPAN 709 and ENG 602 or ENG 603.

**SPAN 780**  
**Credits 3**  
**Studies in Interpretation**  
Offers access to wide range of topics in Spanish-English interpretation. Focuses on a specific area, such as advanced medical, legal or conference interpretation. **Notes:** May be repeated to a maximum of six credits. Taught in Spanish. **Prerequisites:** SPAN 709 and ENG 602 or ENG 603.

**SPAN 796**  
**Credits 3**  
**Independent Study**  
Individual reading projects under direction of a faculty member. Department approval must be obtained prior to registration. **Notes:** May be repeated to a maximum of six credits. **Prerequisites:** Department approval prior to registration.

**SPAN 797**  
**Credits 3**  
**M.A. Written Project**  
Development and undertaking of a capstone project in the M.A. program. Approval from student's M.A. Committee must be obtained prior to registration. **Notes:** May be repeated to a maximum of six credits. **Prerequisites:** Approval from student's M.A. Committee.

**SPAN 798**  
**Credits 3**  
**M. A. Written Examination**  
Preparation for the written examination, including the supplementary reading lists. Generally taken in the same semester as written M. A. exam. **Notes:** May not be repeated for credit. **Grading:** Grade will be pass/fail based on the results of the examination. **Prerequisites:** Consent of graduate coordinator.
History

Chair
Tanenhaus, David
(1997), Professor; B.A., Grinnell College; M.A., Ph.D., University of Chicago.

Graduate Coordinator
Holland, David
(2005), Associate Professor; B.A., Brigham Young University; M.A., Ph.D., Stanford University.

Graduate Faculty

Bauer, William
(2009), Associate Professor; B.A., University of Notre Dame; M.A., Ph.D., University of Oklahoma

Bell, Andrew J. E.
(1994), Associate Professor; B.A., Oxford University; Ph.D., Stanford University.

Brown, Gregory
(1998), Professor; B.A., University of Pennsylvania; M.A., Ph.D., Columbia University

Casas, Maria Raquel
(1997), Associate Professor; B.A., California State University at Fresno; M.A., Ph.D., Yale University

Chung, Sue Fawn
(1975), Professor; B.A., University of California, Los Angeles; M.A., Harvard University; Ph.D., University of California, Berkeley

Coughtry, Jay A.
(1982), Associate Professor; B.A., State University of New York, Geneseo; M.A., Ph.D., University of Wisconsin

Curry John,
(2006) Associate Professor; B.A. Northwestern University; M.A., Ph.D., Ohio State University.

Dawson, Kevin
(2007) Assistant Professor; B.A. California State University, Fullerton; M.A. California State University, Fullerton; Ph.D. University of South Carolina

Fry, Joseph A.
(1975), Distinguished Professor; B.A., Davis and Elkins College; M.A., Ph.D., University of Virginia

Gallo, Marcia M.
(2009), Assistant Professor; B.A. Holy Names University; Ph.D., City University of New York Graduate School

Goodwin, Joanne
(1991), Associate Professor; B.F.A., University of Washington; M.A., Sarah Lawrence College; Ph.D., University of Michigan

Hise, Greg
(2008), Professor; B.A. University of California, Berkeley; Ph.D., University of California, Berkeley

Kirk, Andrew Glenn
(1999), Professor; B.A., M.A., University of Colorado-Denver; Ph.D., University of New Mexico

Loader, Colin T.
(1986), Professor; A.B., Bates College; M.A., University of Rhode Island; Ph.D., University of California, Los Angeles

Moehring, Eugene P.
(1976), Professor; B.A., M.A., Queens College; Ph.D., City University of New York

Nelson, Elizabeth White
Robinson, Todd
(2007), Assistant Professor; B.A., American
University; M.M., Cambridge College;
M.A., University of Massachusetts; Ph.D.,
University of Michigan.

Tanenhaus, David
(1997), Professor; B.A., Grinnell College;
M.A., Ph.D., University of Chicago.

Tusan, Michelle
(2001), Associate Professor; B.A.,
University of California, Davis; M.A.,
Ph.D., University of California, Berkeley.

Werth, Paul
(1997), Professor; B.A., Knox College;
Ph.D., University of Michigan.

Whitney, Elspeth
(1990), Associate Professor B.A., San
Francisco State University; Ph.D., City
University of New York.

Professors Emeriti

Burns, Paul E.
(1963-1995), Emeritus Professor; B.A.,
Miami University (Ohio); M.A., Certificate in
Russian Studies, Ph.D., Indiana University.

Davenport, Robert W.
(1964-1998), Emeritus Associate Professor;
B.A., Pomona College; M.A., University of
California, Berkeley; M.S., Ph.D., University of
California. Los Angeles.

Mattson, Vernon E.
(1969), Emeritus Associate Professor; B.A.,
Tennessee Temple College; M.A., North Texas State
University; Ph.D., University of Kansas.

Wright, Thomas C.

(1972), Emeritus Distinguished Professor;
B.A., Pomona College; M.A., Ph.D., University of
California, Berkeley.

The graduate programs in history are designed to
achieve a balance between teaching and research.
Advanced study in the areas of European, American,
Latin American, Asian, and Public History has
prepared many of our graduates for teaching
positions in area schools and community colleges.
Our course offerings, which train students in
methodology, writing, editing, and critical analysis,
as well as other skills, have qualified many of our
graduates for admission to doctoral programs, law
schools, government positions, and jobs in historical
societies, museums, and international business firms.

Programs
• History M.A.
• History Ph.D.

History Ph.D.
The degree of Doctor of Philosophy is the ultimate
expression of the History Department’s mission to
generate and disseminate new knowledge of the past
through research, reflection and publication. The
doctoral program in history at UNLV has two tracks:
United States History and European History. The
degree aims at providing graduates with the capacity
for original research and thought as demonstrated by
the completion of a doctoral dissertation of
substantial scope combining imagination and
excellence.

Admission Requirements
1. B.A. or equivalent from an accredited
institution with a minimum GPA of 3.00,
with at least a 3.30 in history courses, or an
M.A. or equivalent from an accredited
institution with a minimum GPA of 3.50.
Applicants must have completed significant
course work at the upperdivision or graduate
level in either American history (and
preferably the American West) or the
(cultural/intellectual) history of the United States or Europe.

2. Competitive scores on verbal, quantitative and analytical measures of the Graduate Record Examination.

3. Recommendations from three former instructors addressing the applicant’s preparedness for doctoral level work in United States History and European History.

4. A statement of purpose in which the applicant describes specific interests in and approaches to United States History and European History. The statement should also include a description of the applicant’s background and training for advanced work in this field as well as academic and professional goals.

5. A writing sample in the form of a master’s thesis or original research paper of substantial length and quality. If possible, the writing sample should engage either United States History or European History.

**Degree Requirements**

A minimum of 57 credits beyond the B.A. or 39 credits beyond the M.A. in History or closely related disciplines. Credits must be distributed as follows:

1a. United States History

**Major Field**

- 9 credits in historiography: HIST 740
- 9 credits of colloquium: HIST 724, 726, 730; three credits of which must be in a non-U.S. field: HIST 728, 732, 734, 736, 738
- 8 credits of seminar: HIST 725, 727, 729, 731, 733

**Minor Field**

- Twelve credits of history work in a non-U.S. field of history. Six of these credits may be taken in an appropriate academic discipline other than history. Courses outside the field of history must be approved by a student’s academic advisor.
- All students are required to take the one credit HIST 710 - The Professional Historian

Students must choose one of the following areas of concentration:

- **North American West:** Students are expected to take courses with as many members of the faculty who specialize in the history of the North American West as possible. Students are encouraged to take more than the minimum number of courses. As part of the minimum number of credits listed above, course work above must include: HIST 740f and 740g or 740h (see course descriptions for letter designations); 726, 727.

- **North American Culture and Society:** Students are expected to take courses with as many members of the faculty who specialize in the history of North American Culture and Society as possible. Students are encouraged to take more than the minimum number of courses. As part of the minimum number of credits listed above, course work above must include: HIST 740g, 740h, 724, 725

1b. European History: Culture and Society

**Major Field**

- 9 credits of historiography: HIST 740 b, g, h (see course descriptions for letter designations)
- 9 credits of colloquium: HIST 728, 732, 734, 736, 738; three credits of which must be in a non-European field HIST 724, 726, 730
- 8 credits of seminar: HIST 729, 731, 733, 735, 737, 739

**Minor Field**

- Twelve credits of history work in non-European field of history. Six of these credits may be taken in an appropriate academic discipline other than history. Courses outside the field of history must be approved by a student’s academic advisor.
- All students are required to take the one credit HIST 710 - The Professional Historian
• Students are expected to take courses with as many members of the faculty who specialize in the history of European Culture and Society as possible. Students are encouraged to take more than the minimum number of courses.

2. Foreign Language Requirement
This requirement can be met in any of the following three ways, though the chosen option must be approved by the chair of the student’s examination committee:
1. Demonstrated reading knowledge of two foreign languages.
2. Demonstrated reading knowledge of one foreign language and advanced reading knowledge of the same language, assessed through the writing of a substantial historiographical essay in English based on scholarly literature in that foreign language.
3. With the approval of the student’s committee and the Graduate Coordinator, a student may demonstrate reading knowledge of one foreign language and the successful completion of SOC 604 - Statistical Methods in the Social Sciences.

3. Written and Oral Qualifying Examinations
Students write a total of eight out of sixteen essay questions. Students prepare extensive reading lists of books and articles for each field of study in conjunction with the members of their advisory committee. The lists are based on scholarly works read in coursework, but substantial additional reading is required. Coursework alone does not constitute preparation for comprehensive exams. For purposes of examination, and through close consultation with the student’s committee chair and members of the committee, coursework and supplemental reading will be divided into four examination areas, each of which is comprised of four questions from which the students write on two.

3a. United States History Track
Major Field
United States History: the written examination focuses on the first or second half of U.S. History (1600 to 1877, or 1850 to Present), but students are required to answer questions on the full sweep of U.S. History in the oral examination. A student writes on two of four questions.

Area of Concentration
North American West, or North American Culture and Society: this field requires students to master the literature in their area of specialization. A student writes on two of four questions.

Theory and Methods
A student chooses Applied Theory, Comparative History, or Public History. A student writes on two of four questions.

Minor Field
A student chooses one of the following fields: European History, World History, or Public History. A student may only be examined in Public History in one field. A student writes on two of four questions.

3b. European History
Major Field
Students, in consultation with their advisors, will define the parameters of the major field. Specific chronological parameters will vary but students are required to answer questions on the full sweep of European history in the oral examination. A student writes on two of four questions.

Area of Concentration
European Culture and Society: this field requires students to master the literature in their area of specialization. A student writes on two of four questions.

Theory and Methods
A student chooses one of the following fields: Applied Theory, Public History, or Comparative History. A student writes on two of four questions.

Minor Field
A student chooses one of the following fields: United States History, World History, or Public History. A student may only be examined in Public History in one field. A student writes on two of four questions.

4. Prospectus Colloquium
The prospectus colloquium must be held within three months of the successful completion of the comprehensive examinations. Students must formally present a prospectus for their proposed dissertation research to their advisory committee before taking thesis credits. The prospectus must be accepted for the student to have ABD status in the History Department.

5. Dissertation
A dissertation of substantial length and quality containing original research and interpretation on a topic in the field of either Northern American West, North American Culture and Society, or European Culture and Society. Students must take a minimum of twelve dissertation credits.

6. Dissertation Defense
An oral defense of the dissertation.

7. Credit Hour Requirements
A total of at least 69 credits (this includes 12 credits of dissertation credits) beyond the B.A. or at least 51 credits beyond the M.A. (this includes 12 credits of dissertation credits).

Fast Track Ph.D. Program
A student who enters the doctoral program without an MA may have the MA degree conferred upon approval by the student’s advisory committee and successful completion of 39 credits of coursework, including the following:
1. 9 credits of historiography (any course numbered 740)
2. 9 credits of colloquium (724, 726, 728, 730 or 732)
3. 8 credits of seminar work (725, 727, 729, 731 or 733) resulting in two research papers of publishable quality
4. 9 credits in a minor field

For students who entered the program in Fall 2009 or later, those 39 credits must include History 710. The completion of the second seminar paper will constitute the program’s culminating experience; it will be evaluated by a committee consisting of the instructor of record, the student’s primary advisor and the graduate coordinator. Please note that the MA degree will not be conferred automatically. Students must take the initiative to seek committee approval and apply for conferral through the Graduate College. Doctoral students may also apply to transfer into the MA program at any point, but this will require a new application.

History M.A.
The Department of History offers a Master of Arts degree with concentrations in the following areas: United States, Europe, Asia, Latin America, and Public History (minor). The program is designed to broaden and deepen the student’s understanding of the heritage of human experience. It also sharpens scholarly skills and provides for some specialization in specific fields or periods of history.

Admission Requirements
Students must meet the following requirements for admission to graduate standing.
1. An overall undergraduate grade point average of at least 3.00.
2. A grade point average of at least 3.30 in history courses.
3. Recommendations from two former instructors addressing the applicant’s preparedness for graduate work in history.
4. A minimum of 18 credits in history.
5. Submission of a writing sample, preferably a research paper, representative of undergraduate work.
6. Submission of a statement of purpose in which the applicant describes historical areas and approaches of particular interest, background and training for advanced work in history, and academic and professional goals.

Degree Requirements
There are three tracks for the master’s degree in history. Each requires that a student’s advisor and graduate committee approve all course work plans. A field outside of history may be presented as part of a student’s program. A grade of C or below will not be
accepted for graduate credit, but will be averaged into the student’s grade point average. A minimum GPA of 3.00 must be achieved in all graduate work attempted toward the degree. A minimum of 16 credit hours of course work must be at the 700-level. The student is required to have a reading knowledge of a foreign language if that language is necessary to do research in the selected field. The specific track requirements are as follows:

1. Thesis Track
A minimum of thirty-two graduate credits, including six credits of thesis. In addition to the major area of study, the student must complete nine credits in a minor area.
A maximum of nine credits at the 600-level can count toward degree requirements. Students must successfully complete a written examination in their major area of study. This may be taken at the completion of twenty-two credits of course work, and must be taken no later than the completion of twenty-six credits. Students prepare reading lists of approximately 20-30 books (or an appropriate number of articles can be included in place of some books) for each of their two fields within the major area in conjunction with the members of their advisory committee. The lists are based on scholarly works read in coursework, but substantial additional reading is required. Course work alone does not constitute preparation for comprehensive exams. In addition, an oral defense of the thesis will be required. The Public History minor requires an additional three credits of internship, HIST 795.

Course Requirements
Three credits of historiography, six credits of colloquium, and four credits of seminar.
- HIST 710 - The Professional Historian (1 credit)
- HIST 724 - Colloquium in American Cultural/Intellectual History
- HIST 726 - Colloquium in American Western History
- HIST 730 - Colloquium in American History
- HIST 732 - Colloquium in European History
- HIST 734 - Colloquium in Modern Asian History
- HIST 736 - Colloquium in Modern Latin American History
- HIST 738 - Colloquium in African and Middle Eastern History
- HIST 740 - Historiography
- HIST 725 - Seminar in American Cultural/Intellectual History
- HIST 727 - Research Seminar in American Western History
- HIST 729 - Research Seminar in European Cultural/Intellectual History
- HIST 731 - Research Seminar in American History
- HIST 733 - Research Seminar in European History
- HIST 735 - Research Seminar in Modern Asian History
- HIST 737 - Research Seminar in Modern Latin American History
- HIST 739 - Research Seminar in African and Middle Eastern History

2. Non-Thesis Track
A minimum of thirty-five graduate credits. In addition to a minimum of twenty five credits in the major area of study, students must complete nine credits in a minor area (the Public History minor requires an additional three credits of internship). Students must also successfully complete a written examination in the major and minor areas of study. This may be taken at the completion of twenty-four credits, and must be taken no later than the completion of thirty-five credits. Students prepare reading lists of approximately 20-30 books for each of their two fields within the major area of study and for their minor area in conjunction with their advisory committee members. The lists are based on scholarly works read in coursework, but substantial additional reading is required. Course work alone does not constitute preparation for comprehensive exams.

Course Requirements
Three credits of historiography, six credits of colloquium, and four credits of seminar.

- HIST 710 - The Professional Historian (1 credit)
- HIST 724 - Colloquium in American Cultural/Intellectual History
- HIST 726 - Colloquium in American Western History
- HIST 728 - Colloquium in European Cultural/Intellectual History
- HIST 730 - Colloquium in American History
- HIST 732 - Colloquium in European History
- HIST 734 - Colloquium in Modern Asian History
- HIST 736 - Colloquium in Modern Latin American History
- HIST 738 - Colloquium in African and Middle Eastern History

- HIST 740 - Historiography

- HIST 725 - Seminar in American Cultural/Intellectual History
- HIST 727 - Research Seminar in American Western History
- HIST 729 - Research Seminar in European Cultural/Intellectual History
- HIST 731 - Research Seminar in American History
- HIST 733 - Research Seminar in European History
- HIST 735 - Research Seminar in Modern Asian History
- HIST 737 - Research Seminar in Modern Latin American History
- HIST 739 - Research Seminar in African and Middle Eastern History

Up to 6-credits may be taken at the 600-level.

3. Teachers' Track

Minimum of thirty-two graduate credits (thirty-four for Public History option). Coursework is divided into three required fields:

Field 1: Historical Content
13 credits of History focused on a Geographic Region: Europe, United States or World (Latin America, Asia, Middle East, Atlantic World). A minimum of 7 credits must be taken at the 700-level, including:

- HIST 710 - The Professional Historian
  (1 credit), 3 credits of Historiography:
  - HIST 740 - Historiography

and three credits of colloquium:

- HIST 724 - Colloquium in American Cultural/Intellectual History
- HIST 726 - Colloquium in American Western History
- HIST 728 - Colloquium in European Cultural/Intellectual History
- HIST 730 - Colloquium in American History
- HIST 732 - Colloquium in European History
- HIST 734 - Colloquium in Modern Asian History
- HIST 736 - Colloquium in Modern Latin American History
- HIST 738 - Colloquium in African and Middle Eastern History

Up to 6-credits may be taken at the 600-level.

Field 2: Teaching Materials
10 credits of 700-level coursework in History with a coordinated topical, thematic, or comparative focus, a three-credit colloquium:

HIST 724, HIST 726, HIST 728, HIST 730, HIST 732, HIST 734, HIST 736, HIST 738 or HIST 749

four-credit seminar:

HIST 725 - Seminar in American Cultural/Intellectual History
Field 3: Educational Methods

9 credits* of coursework in the College of Education divided into the following subfields:

Educational Foundations: Select one

CIG 660 - Multicultural Education

CIS 617 - Topics Secondary Education

CIL 610 - Content Area Literacy

Curriculum Development: Select one

CIS 640 - Topics Secondary Social Studies Education

*Matriculants with extensive background in one of these sub-fields may, with the permission of their advisor in the College of Education, take an additional course from one of the two other sub-fields in place of a course in the field of existing expertise. Matriculants with an extensive background in two of these sub-fields may, with permission of the student’s advisor in Education, take 3 credits related to their program of study in another field outside of Education.

Students must successfully complete a written examination in Field 1: Historical Content. This may be taken at the completion of 25 credits, and must be taken no later than the completion of 32 credits (34 for those doing Public History as the Teaching Field). The examination consists of two parts; each part contains two essay questions. Students write on one essay in each part of the exam (total of two essays, two hours for each; four hours total). Questions are written by the student’s committee member/s in the Historical Content field, and each part of the exam is based on a list of approximately 20-30 books prepared in conjunction with the members of the advisory committee.

HIST 601A
American Constitutional and Legal History I
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 601B**
**American Constitutional and Legal History II**
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 604A**
**American Social History to 1860**
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 604B**
**American Social History, 1860-Present**
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 605**

**History of the New South**
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 606A**
**The American West to 1849**
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 606B**
**The American West Since 1849**
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 607A**
**United States Foreign Relations I**
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.
HIST 607B
United States Foreign Relations II
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 610A
American Cultural and Intellectual History I
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 610B
American Cultural and Intellectual History II
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 611
United States: Colonial Period
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 612
United States: Revolution and the New Republic
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 614A
United States: National Period, 1815-1860
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 614B
United States: Civil War and Reconstruction, 1860-1877
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 615A
United States: Gilded Age, 1877-1900
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the
Undergraduate catalog under the corresponding 400 number.

**HIST 615B**  
**United States: The Progressive Era, 1900-1920**  
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 616A**  
**Recent America: Era of Franklin D. Roosevelt, 1920-1945**  
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 616B**  
**Contemporary America: The U.S. Since 1945**  
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 617A**  
**Nevada and the Far West**  
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 619A**  
**Britain to 1750**  
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 619B**  
**Britain from 1750**  
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 620**  
**Topics in Central Europe: 1914 - Present**  
Topics on the political and social change in Central Europe from the outbreak of World War I to the present. Topics vary.

**HIST 621**  
**History of Russia to 1825**  
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.
HIST 622
History of Russia Since 1825
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 623A
History of Germany to 1848
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 623B
History of Germany Since 1848
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 624
Role of Religion in American Culture
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 625
History of Southern Nevada
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 626
The American West Through Film
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 628
History of Business in United States History
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 629
History of American Labor, 1607-Present
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will
ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 632A**
**History of American Women to 1870**
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 632B**
**History of American Women, 1870 to Present**
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 633**
**Credits 3**
**African-American History**
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number. **Notes:** May be repeated to a maximum of 9 credits.

**HIST 633B**
**Credits 3**
**African-American History to 1877**
An examination of African-American history to 1877 that considers roles of free and enslaved blacks in the shaping of America's social, cultural, economic, and political developments. Themes include the slave trade, creation of race and slavery, gender, and African influences on both slave and American culture.

**HIST 633C**
**Credits 3**
**African-American History since 1877**
Examination of the emergence of African-Americans from the aftermath of the Civil War to present. Themes include the restrictions imposed by Jim Crow, segregation beyond the South, the Civil Rights movement, inner city rebellions and the new Black cultural movement.

**HIST 634**
**Role of Cities in American History**
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 634A**
**European Urban History**
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 635A**
**Early Modern Intellectual History**
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project.
A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 635B**  
**Modern Intellectual History**  
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 635C**  
**Credits 3**  
**Topics in European Cultural and Intellectual History**  
In-depth study of specific aspects of early modern and modern European cultural and intellectual history.

**HIST 636**  
**Nazi Holocaust from the American Perspective**  
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 637**  
**Family History**  
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 638A**  
**American Indian History to 1851**  
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 638B**  
**Ethnohistory of Native Americans Since 1851**  
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 638C**  
**Topics in American Indian History**  
In-depth study of specific aspects of American Indian History. **Prerequisites:** Six credits of history.

**HIST 640**  
**Regions in American Indian History**  
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 641**  
**American Environmental History**  
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses
which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 643
Comparative Environmental History
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 643A
Credits 3
Historic Preservation
Examines the history and theory of the historic preservation movement in the United States, the legal basis for preservation of the built environment, and the practical methodology of historic preservation.

HIST 644
Latinos in the American West
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 645
Cultural History of Modern Russia
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 646
History of the Russian Film
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 647
Revolutionary Russia 1905-1921
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 648
Asian American History
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 649A
Credits 3
History of Japan to 1800
Analysis and interpretation of Japanese history to 1800. Examines political and intellectual leaders and events, social and cultural developments, economic forces and foreign relations.

HIST 649B
Credits 3
History of Japan since 1800
Analysis and interpretation of Japanese history since 1800. Examines political and intellectual leaders and events, social and cultural developments, economic forces and foreign relations.

HIST 649C  Credits 3
Topics in Japanese History
In-depth study of selected aspects of Japanese history. Notes: May be repeated to a maximum of 6 credits.

HIST 652A
Popular Culture in Nineteenth-Century America
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 652B
Popular Culture in Twentieth-Century America
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 653
Women in Politics
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 655A  Credits 3
History of China to 1800
Analysis and interpretation of Chinese history to 1800. Examines political and intellectual leaders and events, social and cultural developments, economic forces and foreign relations.

HIST 655B  Credits 3
History of China since 1800
Analysis and interpretation of Chinese history since 1800. Examines political and intellectual leaders and events, social and cultural developments, economic forces and foreign relations.

HIST 655C
Topics in Modern China
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 656
Topics in Ancient History
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 657
Ancient Greek Civilization
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project.
A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 658**
**Roman Civilization**
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 659**
**Medieval Civilization**
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 659A**
**Topics in Medieval History**
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 660A**
**The Renaissance**
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 660B**
**The Reformation**
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 661**
**Europe in the 18th Century**
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 661B**
**Early Modern Europe: 1550-1789**
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 662**
**The French Revolution and Napoleon**
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty.
Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 663
Europe: 1815-1914
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 664
Europe: 1914 to the Present
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 666
European Diplomatic History, 1815-Present
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 668
History of Science
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 670
History of Mexico
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 671
Revolution and Reaction in Contemporary Latin America
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 672
History of Brazil
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 673
History of the Andean Region
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 674**
**Latin American Ethnic Studies**
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 675**
**Modern Latin American Film**
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 676**
**The Mexican Revolution**
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 678**
**Middle-Eastern Studies**
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 678A**
**Islamic and Middle Eastern History to 1750**
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 678B**
**Islamic and Middle Eastern History since 1750**
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 679**
**History of the British Empire**
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.
HIST 679A  Credits 3
West Africa and the Making of the Atlantic World
Explores how West Africa contributed to the cultural and economic development of the Atlantic world and how European contact and interaction contributed to West Africa's development and underdevelopment.

HIST 682
Music History I
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 683
Music History II
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 683A
Urban Destruction and Reconstruction
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 685
Oral History
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 686
Military History of the United States
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 687
Topics in American Studies
Interdisciplinary analysis of selected topics in American history, literature, art, science and material culture. Topics vary from semester to semester.

HIST 689
Comparative History
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

HIST 691A
Women in the Ancient World
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the
Undergraduate catalog under the corresponding 400 number.

**HIST 691B**  
**Women in Medieval Culture and Society**  
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 692**  
**Woman's Role in European History: 1750-1970**  
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 692A**  
**Women In Early Modern Europe**  
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 692B**  
**Women In Modern European History**  
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project.

A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 695**  
**Special Topics in Gender and History**  
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 696**  
**Philosophy of History**  
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 698**  
**Advanced Historical Studies**  
The department also offers a large number of undergraduate courses which are open to graduate students at the 600-level. Among these are courses which reflect the specializations of our faculty. Graduate students enrolled in such courses will ordinarily be expected to complete a special project. A full description of this course may be found in the Undergraduate catalog under the corresponding 400 number.

**HIST 710**  
**The Professional Historian**  
Credits 1  
Provides information and workshops for History graduate students on grant writing, conference paper abstract writing, job applications, research grant applications, etc. to develop professional skills.
beyond coursework. Discussion of aspects of the historical profession.

HIST 724  
Credits 3  
Colloquium in American Cultural/Intellectual History  
Specific topic or theme announced each semester and related bibliography provided. Group sessions critique this literature and evaluate historiographical status of authors. Notes: Several short papers, designed to give training in critical analysis, required. May be repeated to a maximum of nine credits. Prerequisites: Graduate standing.

HIST 725  
Credits 4  
Seminar in American Cultural/Intellectual History  
Topic to be announced each semester. Notes: May be repeated to a maximum of twelve credits. Prerequisites: Graduate standing.

HIST 726  
Credits 3  
Colloquium in American Western History  
Specific topic or theme announced each semester and related bibliography provided. Group sessions critique literature and evaluate the historiographical status of authors. Several short papers, designed to give training in critical analysis, required. Notes: May be repeated to a maximum of nine credits. Prerequisites: Graduate standing.

HIST 727  
Credits 4  
Research Seminar in American Western History  
Topic to be announced each semester. Notes: May be repeated to a maximum of 12 credits. Prerequisites: Graduate standing.

HIST 728  
Credits 3  
Colloquium in European Cultural/Intellectual History  
Analysis of the historical literature on a selected topic in European intellectual/cultural history. Notes: May be repeated to a maximum of nine credits. Prerequisites: Graduate standing.

HIST 729  
Credits 4  
Research Seminar in European Cultural/Intellectual History  
Notes: Topic to be announced each semester. May be repeated to a maximum of twelve credits. Prerequisites: Graduate standing.

HIST 730  
Credits 3  
Colloquium in American History  
Specific topic or theme to be announced and related bibliography provided. Course focuses on critical analysis and historiographical evaluation of the literature. a) Early America. b) Nineteenth Century. c) Twentieth Century. d) Diplomatic. e) Economic. f) Gender. h) Legal. i) Political. j) Race. k) Religion. l) Social. Notes: May be repeated to a maximum of nine credits. Prerequisites: Graduate standing.

HIST 731  
Credits 4  
Research Seminar in American History  
Topic to be announced each semester. a) Early America. b) Nineteenth Century. c) Twentieth Century. d) Diplomatic. e) Economic. f) Gender. h) Legal. i) Political. j) Race. k) Religion. l) Social. Notes: May be repeated to a maximum of twelve credits. Prerequisites: Graduate standing.

HIST 732  
Credits 3  
Colloquium in European History  
Analysis of the historical literature on a selected topic in European history. a) England. b) The French Revolution and Napoleon. c) Modern Russia. d) Germany. e) Medieval History. f) Europe since 1945. Notes: May be repeated to a maximum of nine credits. Prerequisites: Graduate standing.

HIST 733  
Credits 4  
Research Seminar in European History  
Topic to be announced each semester. a) England. b) The French Revolution and Napoleon. c) Modern Russia. d) Germany. e) Medieval. f) Europe since 1945. Notes: May be repeated to a maximum of twelve credits. Prerequisites: Graduate standing.

HIST 734  
Credits 3  
Colloquium in Modern Asian History
Analysis of the historical literature on a selected topic in modern Asia. Notes: May be repeated to a maximum of nine credits. Prerequisites: Graduate standing.

HIST 735 Credits 4
Research Seminar in Modern Asian History
Topic to be announced. Notes: May be repeated to a maximum of twelve credits. Prerequisites: Graduate standing.

HIST 736 Credits 3
Colloquium in Modern Latin American History
Analysis of the historical literature on a selected topic in modern Latin America. Topics to be announced. Notes: May be repeated to a maximum of nine credits. Prerequisites: Graduate standing.

HIST 737 Credits 4
Research Seminar in Modern Latin American History
Topics to be announced. Notes: May be repeated to a maximum of twelve credits. Prerequisites: Graduate standing.

HIST 738 Credits 3
Colloquium in African and Middle Eastern History
Analysis of the historical literature on a selected topic in Africa and/or the Middle East.

HIST 739 Credits 4
Research Seminar in African and Middle Eastern History
Topic to be announced. Notes: May be repeated to a maximum of twelve credits.

HIST 740 Credits 3
Historiography
Lectures, readings, and discussions on the history of historical thought. a) United States-Domestic. b) Europe. c) Modern Asia. d) Modern Latin America. e) United States- diplomatic. f) American West. g) United States (cultural/intellectual). h) European (cultural/intellectual). Notes: May be repeated to a maximum of nine credits. Prerequisites: Graduate standing.

HIST 748 Credits 3
History and Policy
Interdisciplinary historical analysis of American policy formation and failed versus workable policy ideas. Areas of investigation include policy studies in fields such as labor, urban development, minorities and diplomacy. Prerequisites: Graduate standing.

HIST 749 Credits 3
Colloquium in Public History
Practical as well as theoretical introduction to the techniques, methodologies and practices of historians in non-academic settings, including historic preservation, museums, oral history, historical sites, government agencies. Prerequisites: Graduate standing.

HIST 750 Credits 3
Methods for the Study of Public History
Study of methods emphasizing those historical techniques and auxiliary sciences which are most appropriate for the study of public history. Prerequisites: Graduate standing.

HIST 751 Credits 3
Museums and American Culture
Theoretical and practical introduction to issues involved in history museums. Evolving role of museums in American society; organizational, ethical, and interpretive issues; the tension between power and the production of knowledge and memory. Emphasis on curatorial practice including researching and interpreting material culture. Prerequisites: Graduate standing.

HIST 752 Credits 3
Modern Archives: Theory and Methodology
Introduction to theoretical principles, methodologies and processing of archives and manuscripts, institutional programs that care for them, and professional community supporting this work. For students interested in the practice of public history in a variety of historical agencies or organizations. Prerequisites: Graduate standing.
HIST 754  Credits 3  
Topics in Public History  
Practical and theoretical course exploring the varieties of public history. **Prerequisites:** Graduate standing.

HIST 760  Credits 1 – 3  
Advanced Studies in History  
**Notes:** May be repeated to a maximum of six credits, unless otherwise approved by the department.  
**Prerequisites:** Graduate standing.

HIST 761  Credits 1 – 3  
Doctoral Independent Study  
Supervised readings on special topics selected in consultation with a history instructor. **Notes:** May be repeated to a maximum of twelve credits, unless otherwise approved by the department.  
**Prerequisites:** Graduate standing.

HIST 790  Credits 3 – 6  
Thesis  
**Notes:** May be repeated, but only six credits applied to the student's program. **Grading:** S/F grading only.  
**Prerequisites:** Graduate standing.

HIST 790A  Credits 3  
Materials for Teaching History  
Capstone course for the Master of Arts in Teaching History co-taught by History and Curriculum and Instruction faculty. Builds on historical content, original research and pedagogical skills geared to the creation of middle and high school history classroom units. **Prerequisites:** 700-level HIST colloquium and 700-level HIST research seminar.

HIST 791  Credits 3 – 6  
Dissertation  
**Notes:** May be repeated, but only 12 credits applied to the student's program. **Grading:** S/F grading only.  
**Prerequisites:** Graduate standing.

HIST 795  Credits 3  
Internship in Public History  
Supervised internship is an integral part of the Public History track. Internships provide students with practical insights into potential historical employment. Private sector or institutional supervisors provide mentoring relationships and introduce students to the professional networks common to the public historian's work environment.  
**Notes:** May be repeated to a maximum of six credits.  
**Prerequisites:** Graduate standing.
### Philosophy

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<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
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<tbody>
<tr>
<td>PHIL 615</td>
<td>3</td>
<td>Kant&lt;br&gt;Intensive study of one or more of Kant's major writings; e.g., the Critique of Pure Reason, Critique of Practical Reason, Critique of Judgement, Metaphysics of Morals.</td>
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<tr>
<td>PHIL 601</td>
<td>3</td>
<td>Ancient Philosophy</td>
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<td>PHIL 603</td>
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<td>Early Modern Philosophy</td>
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<td>PHIL 604</td>
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<td>19th Century Philosophy</td>
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<td>PHIL 605</td>
<td>3</td>
<td>Contemporary Philosophy</td>
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<td>PHIL 606</td>
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<td>American Philosophy</td>
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<td>PHIL 620</td>
<td>3</td>
<td>Logical Theory</td>
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<td>PHIL 625</td>
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<td>Philosophy of Language</td>
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<td>PHIL 630</td>
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<td>Philosophy of Science</td>
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<td>PHIL 632</td>
<td>3</td>
<td>Philosophy of Social Sciences</td>
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<tr>
<td>PHIL 633</td>
<td>3</td>
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<td>Philosophy Cognitive Science</td>
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<td>PHIL 640</td>
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<td>Theory of Knowledge</td>
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<td>PHIL 641</td>
<td>3</td>
<td>Metaphysics</td>
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<td>PHIL 650</td>
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<td>PHIL 652</td>
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<td>Aesthetics</td>
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<tr>
<td>PHIL 693</td>
<td>3</td>
<td>Gandhian Welfare Philosophy and Nonviolent Culture</td>
</tr>
</tbody>
</table>
Political Science

Chair
Tuman, John  
(2001), Associate Professor; B.A., University of California, Berkeley; M.A., University of Chicago; Ph.D., University of California, Los Angeles.

Graduate Coordinators

M.A. Ethics and Policy Studies  
Fott, David S.  
(1992), Associate Professor; B.A., Vanderbilt University; A.M., Ph.D., Harvard University.

M.A. and Ph.D. Political Science
Pirages, Dennis  
(2009), Professor; B.A., State University of Iowa; Ph.D., Stanford University.

Graduate Faculty

Bowers, Michael  
(1984), Professor; B.A., Cameron University; M.A., Ph.D., University of Arizona.

Damore, David  
(2000), Associate Professor; B.A., University of California, San Diego; M.A., University of Georgia; Ph.D., University of California, Davis.

Fernandez, Kenneth  
(2004), Assistant Professor; B.A., University of California, San Diego; M.A., Ph.D., University of California, Riverside.

Howard, Tiffiany  
(2008), Assistant Professor; B.A., Florida A&M University; M.A., Ph.D., University of Michigan, Ann Arbor.

Jelen, Ted G.  
(1997), Professor; B.A., Knox College; M.A., Ph.D., Ohio State University.

Kuenzi, Michele  
(2004), Assistant Professor; B.A., Grinnell College; M.P.A., Wayne State University; Ph.D., Michigan State University.

Lutz, Mark  
(2006), Assistant Professor; B.A., University of Chicago; M.A., Ph.D., University of Toronto.

Parker, Steven  
(1979), Associate Professor; B.A., Assumption College; M.A., Ph.D., State University of New York, Albany.

Strand, Jonathan  
(2001), Associate Professor; B.S., University of Wisconsin-Platteville; M.A., Ph.D., University of Nebraska, Lincoln.

Tamadonfar, Mehran  
(1987), Associate Professor; B.A., M.A., University of Tehran; Ph.D., University of Colorado, Boulder.

Titus, Dina  
(1977), Professor; B.A., College of William and Mary; M.A., University of Georgia; Ph.D., Florida State University.

Wood, Rebecca  
(2008), Assistant Professor; B.A., James Madison College at Michigan State University; Ph.D., Michigan State University.

Professors Emeriti

Bigler, Robert M.  
(1970-1998), Emeritus Professor; Diploma, University of Budapest; M.A., Ph.D., University of California, Berkeley.
Dixon, Brock  
(1971-1985), Emeritus Vice President; B.A., Pacific College; M.A., University of Oregon; Ph.D., University of Southern California.

Jones, Gary L.  
(1969-2002), Emeritus Associate Professor; A.A., Long Beach City College; B.A., Long Beach State College; Ph.D., Claremont Graduate School.

Simich, Jerry L.  
(1973-2008), Emeritus Associate Professor; B.A., California State University, Long Beach; Ph.D., University of California, Santa Barbara.

Tuttle, Andrew C.  
(1968-2000), Emeritus Associate Professor; B.A., M.A., University of California, Santa Barbara; Ph.D., Claremont Graduate School.

The Department of Political Science offers two master's degree programs: one in Political Science, the other in Ethics and Policy Studies, and a doctoral degree program in Political Science. A description of each follows. Programs are flexible, and students may take advantage of individualized instruction.

**Political Science**

The Department of Political Science offers a general Master of Arts degree. Students tailor their program with the assistance of the department’s graduate coordinator. Advisory committees will approve programs that provide an appropriate degree of specialization in two of the fields of political science with supporting studies in others.

Students can pursue graduate education in the areas of comparative politics, international relations, American politics, political theory, public law, and public policy. Students can normally expect to complete the program in from one-and-a-half to two years. The department offers a number of graduate assistantships as well as internship opportunities at the local, state, and federal levels, where students can obtain on-the-job experience.

The graduate program in political science is designed to prepare graduate students for doctoral studies, teaching positions at secondary schools and community colleges, or employment by government agencies, research centers, or private industry. Our graduates have gone on to executive positions in national, state, and local governments and to doctoral programs at top schools throughout the country.

**Ethics and Policy Studies**

**Advisory Committee**

Bernick, Lee  
(2000), Professor of Public Administration and Interim Dean of the Greenspun College of Urban Affairs; B.A., M.A., Ph.D., University of Oklahoma.

Fernandez, Kenneth  
(2004), Assistant Professor; B.A., University of California, San Diego; M.A., Ph.D., University of California, Riverside.

Fott, David S.  
(1992), Associate Professor; B.A., Vanderbilt University; A.M., Ph.D., Harvard University.

Lutz, Mark  
(2006), Assistant Professor; B.A., University of Chicago; M.A., Ph.D., University of Toronto.

Schollmeier, Paul  
(1989), Professor of Philosophy; B.A., M.A., Ph.D., University of Chicago.

Titus, Dina
(1977), Professor; B.A., College of William and Mary; M.A., University of Georgia; Ph.D., Florida State University.

The Department of Political Science offers a Master of Arts degree in Ethics and Policy Studies (EPS). EPS is a unique program for students who have already begun or are planning to enter careers in government, legal or medical professions, or business, and who are curious enough to study the ethical questions involved in the making of decisions in those areas. Such students find that they can contribute more to their families, communities, and professions or businesses if they study ethics, policy, and the relation between the two. Each student in the program can pursue a specialized emphasis in his or her program of studies, contingent on the availability of faculty. EPS draws upon a wide variety of faculty from the UNLV Graduate College. Emphases may come from such areas as ethics in business, ethics in government, environmental ethics, and medical ethics (including health care policy).

EPS students learn about moral and political philosophy, about political science more generally, and about related fields in the liberal arts. This interdisciplinary focus allows EPS students a greater opportunity to study the sociopolitical context in which ethical decisions in business and the professions are made.

**Doctor of Philosophy in Political Science**

The Ph.D. program offers major concentrations in Comparative Politics and International Relations, and minor concentrations in American Politics, Comparative Politics, International Relations, and Political Theory.

Globalization is a dominant characteristic of politics in the twenty-first century. The program focuses on the causes, consequences, and limitations of the political, economic, and cultural aspects of globalization.

The PhD program is intended to prepare its graduates for careers in academic institutions, government (at all levels), and business and industry. Increasingly, a cross-national, cross-cultural understanding of political processes is essential for education, public policy, and commerce.

**Programs**

- Ethics and Policy Studies M.A.
- Political Science M.A.
- Political Science Ph.D.

**Political Science M.A.**

**Admission Requirements**

Admission to the department is competitive, with only the strongest applicants gaining admission in any given year. Applicants must complete the Graduate College online application. The following department application materials must be uploaded into the online application

1. Graduate Record Examination (GRE) General Test scores
2. Two letters of recommendation by recommendation provider
3. A personal statement explaining why you want to enter the master’s program.
4. Applicants for admission must have earned:
   a. A baccalaureate from an accredited college or university.
   b. A grade point average of at least 3.00.
   c. Satisfactory scores on the GRE General Test. Minimum scores are 500 on each of the verbal and quantitative sections of the exam; we also consider the analytical writing score. In unusual circumstances, students who do not meet the above criteria may still be admitted.

*Note: Official transcripts must be submitted to the Graduate College.

**Degree Requirements**

The candidate for the Master of Arts degree must complete a minimum of 30 credit hours under Plan A
or 33 credit hours under Plan B in courses designated for graduate study in political science and related disciplines. Candidates must designate two fields as their major fields. They must successfully complete three courses in each field. Eighteen credits must be taken in graduate seminar work. Students may complete a maximum of 6 graduate credits in related areas outside political science.

To be counted toward the M.A. degree, all courses must be pre-approved by the graduate coordinator. The candidate must maintain a minimum B average during the semester in order to remain in good standing. Only those courses in which a student receives a grade of B or better may be used for graduate credit. The candidate, in conjunction with the graduate coordinator, will select either Plan A or Plan B. All graduate students are required to take:
PSC 701 - Research Design and Methodology among their first 12 credit hours. Other seminars may have prerequisite requirements; for example, PSC 701 must be taken before PSC 729. Internship credits do not count toward a degree program.

Plan A: Thesis Option
Students must complete 24 credit hours of course work in at least two areas of political science plus 6 credit hours of thesis. Completion of the thesis consists of an oral examination administered by the advisory committee.

Plan B: Comprehensive Examination Option
Students must complete 33 credit hours of course work in at least two areas of political science, including:
PSC 795 - Directed Readings in Political Science. 
PSC 782 encompasses preparation for, and taking of, written and oral examinations administered by the advisory committee.

Political Science Ph.D.

Admission Requirements
BA or equivalent from an accredited institution with a minimum GPA of 3.3, or MA or equivalent from an accredited institution with a minimum GPA of 3.5. Under special circumstances the department may consider applicants with lower GPAs. Applicants must have completed 12 credits of course work at the upper-division or graduate level in comparative politics and international relations combined. At the discretion of the department, students who lack such course work may be admitted on the condition that they remedy that deficiency.

Satisfactory scores on the Graduate Record Examination (GRE) General Test. The recommended score is a total of 1,200 on the verbal and quantitative sections. We also pay attention to the analytical score. The applicant's undergraduate record is examined in conjunction with the GRE scores. The former is weighed more heavily than the latter: an outstanding undergraduate record may well allow the admission of an applicant with GRE scores somewhat below the recommended level.

Admission to the department is competitive, with only the strongest applicants gaining admission in any given year. Applicants must complete the Graduate College online application. The following department application materials must be uploaded into the online application:
1. Graduate Record Examination (GRE) General Test scores
2. Three letters of recommendation by recommendation providers
3. A personal statement explaining why you want to enter the doctoral program
4. A writing sample.
Official transcripts must be submitted to the Graduate College.

Degree Requirements
1. A minimum of 62 credits beyond the BA or 44 credits beyond the MA.
2. A minimum grade point average of 3.0 for all course work. No course in which a student makes a grade below B will count toward the degree—with the exception of foreign language courses, in which no grade below B will satisfy the requirement.
3. Comprehensive written and oral examinations. They will be taken during or following the semester in which the student completes required course work. They will be divided into three parts, corresponding to the student’s major field and two minor fields. Within those fields the content of the examinations
will be determined by the student’s program of study as approved by his or her committee. Students will have two opportunities to pass the comprehensive examinations.

EPS 701  Credits 3
Critical Thinking
Skills of argument analysis and synthesis, using the logic of natural language to locate, evaluate, and criticize reasoning in a variety of idioms. Culminates in a topical argument analysis and concluding synthesis of a more whole, defended argument. **Prerequisites:** Graduate standing.

EPS 702  Credits 3
Ethics
Focuses on the heritage of Western culture, ethics of the person and community, questions of conscience, justice, moral conflict, citizenship, and the issues of consent and dissent. Work is historical and critical, first on interpretation and then evaluation leading to student presentation on a problem in ethics.

EPS 710  Credits 3
Policy Analysis
Aims to enable students to understand and evaluate a range of methods used by professional policy analysts, and to present some of the ethical issues surrounding this practice. Each student is required to locate and critique some examples of policy analysis in his or her own area of interest. **Prerequisites:** Graduate standing.

EPS 712  Credits 3
Seminar in Business and Professional Ethics
Exploration of applied ethics, which combines the study of justice, human rights, corruption, sexism, or racism, etc., with analysis of existing public- and private-sector practices or laws. Environmental, medical/health care, business, journalism, professional, and government ethics may be explored. **Notes:** May be repeated to a maximum of six credits. **Prerequisites:** Graduate standing.

EPS 723  Credits 3
Aristotle's Nicomachean Ethics
A close reading of Aristotle's Nicomachean Ethics. Major themes explored include moral virtue, intellectual virtue, friendship, and the relationship between philosophy, ethics and politics. **Notes:** May be repeated to a maximum of six credits.

EPS 724  Credits 3
Aristotle's Politics
Close reading of Aristotle's Politics. Major issues to be considered include Aristotle's political naturalism, pluralism and regime classification. **Notes:** May be repeated to a maximum of six credits. **Prerequisites:** Graduate standing.

EPS 738  Credits 3
Organizational Ethics
Focuses on the moral culture of the organization, its practices, reward and punishment systems, rituals, and languages. Examines differences between organizations supportive of or punitive of employees' intellectual integrity and moral autonomy. Organization as a moral habitat, functional or dysfunctional; problems of exit, voice, and loyalty. **Prerequisites:** Graduate standing or consent of instructor.

EPS 739  Credits 3
Health Care Ethics
Investigates ethical issues in health care. Philosophical methodologies that help with complex and controversial decision including principlism casuistry, virtue theory, and care ethics. Issues include end-of-life care, informed consent, access to services, HIV, and organ transplantation. **Notes:** May be repeated to a maximum of six credits. **Prerequisites:** Graduate standing or consent of instructor.

EPS 740  Credits 3
Seminar in Organizational and Public Morality
How organizational practices and policies produce moral consequences. What kinds of organizational responsibility belong to these practices, and how the person working in an organization maintains, balances, or loses moral integrity in such circumstances. Case studies from business, government, professions, and community
organizations. **Prerequisites:** Graduate standing or consent of instructor.

**EPS 741**  
*Credits 3*  
**Environmental Law and Policy Seminar**  
Substantive aspects of major federal environmental laws and their concomitant regulations, as well as the policy underlying their promulgation and implementation. The present status and implementation of the National Environmental Policy Act, the Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act, and the comprehensive Environmental Response, Compensation and Liability Act. Examines policies underlying the existing laws, their derivative regulations, and changes considered by Congress for these laws. **Prerequisites:** EPS 701, 702, or 712

**EPS 743**  
*Credits 3*  
**Policy Formation: The Problem of Legitimacy**  
What makes a policy legitimate? Analyzes the process of making public policy in terms of such ethical considerations as public versus private good, legality versus morality, accountability of policy makers, enforcement of decisions, and evaluation of programs. **Prerequisites:** Graduate standing.

**EPS 744**  
*Credits 3*  
**Citizenship and Public Policy**  
Examines the meaning of democracy and explores various proposals for strengthening the life of active citizenship. Balances academic and theoretical concerns with strategic and empowering ones. Students develop a working concept of democratic citizenship and a plan for integrating this concept into real-world policymaking. **Prerequisites:** Graduate standing.

**EPS 745**  
*Credits 3*  
**Public Law and Public Policy**  
Focuses on the role of the courts in shaping the different policy areas in the American political system. **Prerequisites:** Graduate standing.

**EPS 746**  
*Credits 3*  
**Jurisprudence**  
Study of the role of morality in the historical and recent debates over the nature of law including: Is a conceptual separation of law and morality desirable?; legal validity; the justification of the judicial decision; finally, the importance of jurisprudence in helping to resolve public policy disputes. **Prerequisites:** Graduate standing.

**EPS 747**  
*Credits 3*  
**Public Policy Process**  
Examines the roles of the legislative and executive branches of government in public policy formation and implementation. Surveys empirical techniques used in the field, assesses the impact of ethical theories on the public policy process, and explores selected policy issues in detail. **Prerequisites:** Graduate standing.

**EPS 748**  
*Credits 3*  
**History and Policy**  
Interdisciplinary historical analysis of American policy formation and failed versus workable policy ideas. Areas of investigation may include policy studies in fields such as labor, urban development, minorities, and diplomacy. **Prerequisites:** Graduate standing.

**EPS 749**  
*Credits 3*  
**Seminar: Political Sociology**  
Explores relations between states and social institutions such as social classes, interest groups, and systems of cultural and material production and reproduction. Covers issues such as theories of the state, political behavior, and frameworks for development of solutions to various contemporary problems. **Prerequisites:** Graduate standing.

**EPS 750**  
*Credits 3*  
**Advanced Studies in Public Policy**  
Selected topics in public policy. **Notes:** May be repeated to a maximum of six credits. **Prerequisites:** EPS 702, EPS 710, and EPS 744

**EPS 790**  
*Credits 1 – 9*  
**Ethics and Policy Selected Topics**  
Designed to allow special attention to be given to ethics and policy problems by way of philosophy,
history, political science, sociology, communication studies, or related disciplines. **Notes:** May be repeated, with permission, to a maximum of nine credits.

**EPS 794 Credits 1-3**
**Independent Study and Research in Ethics and Policy Studies**
Program of independent reading and research in ethics and policy studies, to be selected in consultation with an instructor before registration. **Notes:** May be repeated to a maximum of three credits with consent of instructor.

**EPS 799 Credits 3 – 6**
**Thesis**
May be repeated but only six credits applied to the student’s program. S/F grading only. Prerequisite: Departmental approval. **Notes:** May be repeated to a maximum of 18 credits with consent of advisor. **Grading:** S/F grading only. **Prerequisites:** Graduate standing and consent of instructor.

**PSC 701 Credits 3**
**Research Design and Methodology**
Exposes graduate students to a body of literature and a set of ideas about doing sound social science research, either applied or non-applied. Emphasis on injecting scientific and theoretical rigor into the investigation of political phenomena. **Prerequisites:** Graduate standing.

**PSC 702 Credits 3**
**Advanced Quantitative Methods**
Review of basic statistical techniques and in-depth treatment of bivariate and multivariate regression analysis, including regression diagnostics and remedies for assumption violations. Also introduces advanced statistical estimation techniques including robust regression, time-series analysis, and maximum likelihood estimation. **Prerequisites:** PSC 701 or equivalent and graduate standing.

**PSC 710R Credits 3**
**Proseminar in American Politics**
Concepts, methods, and theories in American politics. Particular attention is devoted to the presentation and analysis of classic books and articles in the field so as to provide students with the requisite foundation for advanced study.

**PSC 712 Credits 3**
**Intergovernmental Relations**
Covers political, constitutional, fiscal, and regulatory aspects of the federal, state, and local governments. Emphasis on relations of state and local governments to the federal government. Satisfies Nevada Constitution requirement. **Prerequisites:** Graduate standing.

**PSC 713 Credits 3**
**American National Government: Principles**
Addresses the theoretical principles underlying—and disputed within—the American political regime since the Founding. Readings include writings by American statesmen, political philosophers, and scholars representative of key perspectives in the liberal-constitutional tradition. Satisfies U.S. Constitution requirement. **Prerequisites:** Graduate standing.

**PSC 714 Credits 3**
**American National Government: Structure and Processes**
American political institutions, public opinion, voting behavior, and the making of public policy. **Prerequisites:** Graduate standing.

**PSC 719 Credits 3**
**Advanced Studies in American Politics**
Selected topics in American politics. Students are advised to take PSC 710R before this course. **Notes:** May be repeated to a maximum of six credits. **Prerequisites:** PSC 701 and graduate standing.

**PSC 721 Credits 3**
**Public Policy Process**
Examines the roles of the legislative and executive branches of government in public policy formation and implementation. Surveys empirical techniques used in the field, assesses the impact of ethical theories on the public policy process, and explores selected policy issues in detail. **Notes:** May be
repeated to a maximum of six credits. **Prerequisites:** Graduate standing.

**PSC 722**  
**Credits 3**  
**Environmental Resource Policy**  
Condition of the global environment, a topic which has risen from relative obscurity after World War II to a topic high on the national and global agenda. Considers the socio-political aspects related to the environment and natural resources, familiarizing students with the policy process and institutions predominant in this area. **Prerequisites:** Graduate standing.

**PSC 723**  
**Credits 3**  
**Policy Analysis**  
Aims to enable students to understand and evaluate a range of methods used by professional policy analysts, and to present some of the ethical issues surrounding this practice. **Notes:** Each student is required to locate and critique some examples of policy analysis in his or her own area of interest. **Prerequisites:** Graduate standing.

**PSC 724**  
**Credits 3**  
**Intelligence Policy**  
Focuses primarily on the US intelligence community as it has evolved since World War II. Emphasis on analysis, overt action, and counterintelligence. Congressional and judicial controls examined. Attention also given to foreign intelligence agencies; terrorism. **Prerequisites:** Graduate standing.

**PSC 725**  
**Credits 3**  
**Policy Formation: The Problem of Legitimacy**  
What makes a policy legitimate? Analyzes the process of making public policy in terms of such ethical considerations as public versus private good, legality versus morality, accountability of policy makers, enforcement of decisions, and evaluation of programs. **Prerequisites:** Graduate standing.

**PSC 726**  
**Credits 3**  
**National Security Policy**  
Focuses on national security issues confronting the U.S. including the conduct of conventional warfare, nuclear strategy, deterrence, arms control, Strategic Defense Initiative, alliance formation, and other topics. **Prerequisites:** Graduate standing.

**PSC 729**  
**Credits 3**  
**Advanced Studies in Public Policy**  
Selected topics in public policy. May be repeated to a maximum of six credits. **Prerequisites:** PSC 701 and graduate standing.

**PSC 731**  
**Credits 3**  
**Civil Rights and Liberties**  
Analysis of the substance and literature on the topic of civil rights and civil liberties in the United States. **Prerequisites:** Graduate standing.

**PSC 732**  
**Credits 3**  
**Constitutional Law**  
Study of the U.S. Constitution with emphasis on its interpretation, the power of the judiciary, Congress, and executive. Attention also devoted to federal-state relations and the Commerce Clause. Satisfies the U.S. Constitution requirement. **Prerequisites:** Graduate standing.

**PSC 733**  
**Credits 3**  
**Public Law and Public Policy**  
Focuses on the role of the courts in shaping the different policy areas in the American political system. **Prerequisites:** Graduate standing.

**PSC 735**  
**Credits 3**  
**Jurisprudence**  
Study of the role of morality in the historical and recent debates over the nature of law including: Is a conceptual separation of law and morality desirable?; legal validity; the justification of the judicial decision; finally, the importance of jurisprudence in helping to resolve public policy disputes. **Prerequisites:** Graduate standing.

**PSC 739**  
**Credits 3**  
**Advanced Studies in Public Law**  
Selected topics in public law. Students are advised to take PSC 710R before this course. **Notes:** May be repeated to a maximum of six credits. **Prerequisites:** PSC 701 and graduate standing.
PSC 740  Credits 3
Proseminar in International Relations
Concepts, methods, and theories in international relations. Application of these tools to contemporary issues in international politics and economics. Conflict and peace studies, the North-South dialogue, and futures studies. Prerequisites: Graduate standing.

PSC 741  Credits 3
U.S. Foreign Policy
Examines the dynamics of the foreign policy decision-making process, surveys the historical evolution of American foreign policy, and addresses its contemporary issues. Impacts of the changing faces of communism, third-world nationalism, and global economic and political interdependencies on U.S. foreign policy studied in detail. Prerequisites: Graduate standing.

PSC 746  Credits 3
Middle East in World Affairs
Develops a framework for the study of international relations of the Middle East; examines domestic, regional and global determinants of external politics in the region; analyzes its great powers' interests and policies (strategic, military, economic, etc.) in this area; and studies intraregional problems including the Arab-Israeli imbroglio, inter-Arab conflicts, and turmoil in Lebanon. Prerequisites: Graduate standing.

PSC 747  Credits 3
Pacific Rim in World Affairs
Examines international relations of the Pacific Rim, a key region in contemporary international politics. Analyzes diplomatic/political, military/security, and economic/trade issues in the region, and assesses the dynamics and interdependence of the region and the region's significance to international politics in the twenty-first century. Prerequisites: Graduate standing.

PSC 751  Credits 3
International Political Economy
Examines the concepts, methods, and theories used in the study of the politics of international economic relations. Major theories of international political economy are examined and applied to the study of international trade, international capital flows, economic development, globalization, regional integration, labor, and the environment.

PSC 744  Credits 3
Global Governance
Examines the theoretical foundations for world order with attention to international organizations, collective security, regional and global integration, transnational capital, social movements, human security, and states.

PSC 755  Credits 3
International Security
This course will examine contemporary threats to international security and peace (e.g., terrorism, conflict) in order to explore the different methods of preventing, managing, and resolving them.

PSC 759  Credits 3
Advanced Studies in International Relations
Selected topics in international relations. Students are advised to take PSC 740 before this course. Notes: May be repeated to a maximum of six credits. Prerequisites: PSC 701 and graduate standing.

PSC 760R  Credits 3
Proseminar in Comparative Politics
Concepts, methods, and theories in comparative politics. Topics include such as political development, ethnicity, leadership, and political economy. Prerequisites: Graduate standing.

PSC 761  Credits 3
Middle Eastern and North African Politics
Provides students with in-depth analysis of the political institutions, processes, and policies in the Middle East and North Africa. Prerequisites: Graduate standing.

PSC 762  Credits 3
African Politics
This course surveys the broad themes and debates in the study of the politics of sub-Saharan Africa. The historical and geographic forces that have shaped the
African state are explored. The nature and performance of the post-colonial state and the attempts at economic and political reform are examined.

**PSC 764 Credits 3**  
**Latin American Politics**  
Provides students with an understanding of regime change, party systems, conventional participation, and social movements. Includes coverage of advanced theories of comparative politics as applied to the region.

**PSC 767 Credits 3**  
**Comparative Democratization**  
This course explores the phenomenon of democratization, with a particular focus on the cases of democratization that have occurred since the start of the third wave of democratization in the mid-1970s. The different theoretical approaches to explaining both the transition to and consolidation of democracy will be examined.

**PSC 775 Credits 3**  
**Comparative Political Behavior**  
Examination of the antecedents and consequences of public opinion and political behavior from a comparative perspective, with emphasis given to democratic regimes.

**PSC 779R Credits 3**  
**Advanced Studies in Comparative Politics**  
Selected topics in comparative politics. Students are advised to take PSC 760R before this course. Notes: May be repeated to a maximum of six credits. Prerequisites: PSC 701 and graduate standing.

**PSC 780R Credits 3**  
**Proseminar in Political Theory**  
Concepts and issues in political theory, with emphasis on major texts in the history of political philosophy. Prerequisites: Graduate standing.

**PSC 781 Credits 3**  
**Political Theory before 1500**  
Readings from works by selected political theorists of the ancient and medieval periods. Authors may include Thucydides, Xenophon, Plato, Aristotle, Cicero, Al-Farabi, Maimonides, and Thomas Aquinas.

**PSC 782R Credits 3**  
**Political Theory from 1500 to 1900**  
Readings from works by selected political theorists of the early and late modern periods. Authors may include Machiavelli, Hobbes, Locke, Rousseau, Kant, Hegel, J. S. Mill, Marx, and Nietzsche.

**PSC 783 Credits 3**  
**Political Theory since 1900**  
Readings from works by selected political theorists since 1900. Authors may include Dewey and Heidegger.

**PSC 789R Credits 3**  
**Advanced Studies in Political Theory**  
Selected topics in political theory. Students are advised to take PSC 780R before this course. Notes: May be repeated to a maximum of six credits. Prerequisites: Graduate standing.

**PSC 790 Credits 3**  
**Studies in Political Science**  
Analysis of the research and literature on a selected topic in political science. Specific topic announced each semester. Notes: May be repeated to a maximum of six credits.

**PSC 791 Credits 1-3**  
**M.A. Independent Study in Political Science**  
Program of independent reading and research in political science for M.A. students, to be selected in consultation with an instructor before registration. May be repeated to a maximum of six credits with consent of instructor. Prerequisites: Consent of instructor.

**PSC 792 Credits 1-3**  
**Ph.D. Independent Study in Political Science**  
Program of independent reading and research in political science for Ph.D. students, to be selected in consultation with an instructor before registration. May be repeated to a maximum of six credits with consent of instructor.
consent of instructor. **Prerequisites:** Consent of instructor.

**PSC 793**  
**Credits 1 – 3**  
**Internship in Political Science**  
Graduate students have a work assignment in an executive, legislative, or judicial setting, political party, or interest group institution at the national, state, or local governmental level and make regular reports on work activities and assigned readings. Substantial written work required. **Notes:** May be repeated to a maximum of six credits with consent of instructor.

**PSC 795**  
**Credits 3**  
**Directed Readings in Political Science**  
Program of assigned reading in preparation for comprehensive examinations. **Prerequisites:** Graduate standing and departmental approval.

**PSC 796**  
**Credits 3 – 6**  
**Thesis**  
**Notes:** May be repeated but only six credits applied to the student's program. **Grading:** S/F grading only. **Prerequisites:** Departmental approval.

**PSC 797**  
**Credits 1**  
**Dissertation Preparatory Course I**  
Preliminary work on a paper of sufficient quality to be potentially presented to a scholarly conference or for publication. **Prerequisites:** Graduate standing.

**PSC 798**  
**Credits 1**  
**Dissertation Preparatory Course II**  
Concluding work on a paper of sufficient quality to be potentially presented to a scholarly conference or for publication. **Prerequisites:** PSC 797

**PSC 799**  
**Credits 3-12**  
**Dissertation**  
May be repeated but only 12 credits may be applied toward degree. **Prerequisites:** PSC 798 and passing grade on comprehensive examinations.
Psychology

Chair

Ashcraft, Mark H.
(2005), Professor; B.A., Grinnell College, M.A., Ph.D., University of Kansas.

Graduate Coordinator

Clinical: Kearney, Christopher A.
(1990), Distinguished Professor; B.A., State University of New York at Binghamton; M.A., Ph.D., State University of New York at Albany.

Experimental: Millar, Murray
(1990), Associate Professor; B.A., Graceland College; M.S., Eastern Washington University; Ph.D., University of Georgia.

Graduate Faculty

Allen, Daniel N.
(1999), Professor; B.A., Moody Bible Institute; M.S., Eastern Washington University; Ph.D., University of South Dakota.

Barchard, Kimberly A.
(2001), Associate Professor; B.S., Simon Fraser University; M.A., Ph.D., University of British Columbia.

Carro, Michelle G.
(2004), Assistant Professor in Residence; B.A., Colgate University; Ph.D., University of Vermont.

Copeland, David
(2006), Assistant Professor; B.A., Cleveland State University; Ph.D., University of Notre Dame.

Donohue, Bradley C.
(1998), Professor; B.A., University of Kansas; Ph.D., Nova Southeastern University.

Hannon, Erin E.
(2007), Assistant Professor; B.A., New College of Florida; Ph.D., Cornell University.

Heavey, Christopher L.
(1992), Associate Professor; B.A., University of California, Santa Cruz; M.A., Ph.D., University of California, Los Angeles.

Holland, Jason M.
(2011), Assistant Professor; B.A., University of Tennessee; M.S., Ph.D., University of Memphis.

Hurlburt, Russell T.
(1976), Professor; B.S.E., Princeton University; M.S., University of New Mexico; Ph.D., University of South Dakota.

Kinney, Jefferson W.
(2007), Assistant Professor; B.S., M.S., Ph.D., Colorado State University.

Meana, Marta
(1997), Professor; B.A., M.A., Ph.D., McGill University.

Parks, Colleen M.
(2008), Assistant Professor; B.A., Trinity University; M.S., Ph.D., Georgia Institute of Technology.

Pritchard, Laurel M.
(2007), Assistant Professor; B.S., University of Findlay; Ph.D., University of Cincinnati.

Rennels, Jennifer L.
(2003), Associate Professor; B.S., Ithaca College; M.A., Ph.D., University of Texas, Austin.

Silver, N. Clayton (1997),
Associate Professor; B.A., University of Cincinnati; M.S., Ph.D., Tulane University.

Snyder, Joel S.
(2007), Assistant Professor; B.A., University of California, San Diego; Ph.D., Cornell University.
Warren, Cortney S.  
(2006), Assistant Professor; B.A., Macalester College; M.S., Ph.D., Texas A&M University.

Professors Emeriti

Ferraro, Douglas P.  
(1996-2008), Professor; A.B., M.A., Ph.D., Columbia University.

Hess, Harrie F.  
(1965-1989) Emeritus Professor; B.A., University of Nevada, Reno; M.A., Ph.D., University of Colorado.

Kern, Jeffrey M.  
(1990-2011). Emeritus Associate Professor; B.A., Queens College; Ph.D. State University of New York at Stony Brook.

Knapp, Terry J.  
(1976-2007), Emeritus Professor; B.A., B.S., University of Iowa; M.A.,University of Northern Iowa; Ph.D., University of Nevada, Reno.

Rasmussen, Charles T.  
(1972-2007). Emeritus Associate Professor; B.A., Susquehanna University; M.A., Ph.D., University of Arizona.

Program

- Psychology Ph.D.

Psychology Ph.D.

The Graduate Faculty of the Department of Psychology is comprised of a group of dedicated individuals who have received their training at outstanding graduate programs. We continue to recruit accomplished scholars who will enhance the quality and diversity of the graduate experience available to our students. The department is committed to providing our graduate students with a high quality program balanced across classroom, laboratories, and other research settings; and for clinical students, various practicum placements. The department currently offers M.A. and Ph.D. degrees through the Clinical and Experimental Psychology programs.

Doctoral Program in Clinical Psychology

The UNLV Clinical Psychology Doctoral Program prepares students to address human concerns through both scholarly research and the application of psychological knowledge and skills. We recognize psychology as an empirical science and expect students to have a broad understanding of existing psychological knowledge. We guide students to base their scholarly and professional activity on the scientific foundation of psychology. Through an integration of didactic study, supervised clinical activity, and mentored scholarly research, we prepare students as generalist scientist-practitioners to conduct scientific research and clinical interventions with children and adults.

The program is accredited by the American Psychological Association. The Clinical Psychology program currently admits only students seeking a doctoral degree. The program admits students for matriculation only in the fall semester. The application deadline is December 1 prior to the fall for which matriculation is being requested. Applicants will be notified of their status prior to April 15. We anticipate entering classes of 5-8 students each year. Typical admitted students have GPAs of 3.7 and GRE scores of 600 (see http://psychology.unlv.edu/html/clinical_program.html for more information).

Admission Requirements

1. A bachelor’s degree from an accredited institution or a master’s degree or equivalent from an accredited institution. We strongly recommend that applicants have a degree in psychology. Applicants should have completed at least 18 hours of undergraduate psychology courses including statistics,
abnormal psychology, and experimental psychology.

2. Satisfactory scores on the Verbal and Quantitative sections of the Graduate Record Examination (GRE).

3. Three letters of recommendation.

4. A statement of purpose written by the applicant.

5. A personal interview with members of the program faculty is required for finalists in the selection process.

We will notify applicants if they are finalists in February under most circumstances. If a personal interview is not feasible, a telephone interview may be substituted. In unusual circumstances, students who do not meet these admission requirements may be admitted.

Degree Requirements: Clinical Psychology

The doctoral degree in clinical psychology requires a minimum of 96 credits. En route to doctoral candidacy the student must complete the requirements for a master’s degree in psychology according to the following:

Master's Degree: 48 Total Credit Hours

PSY 707 - Research Methods
PSY 708 - Statistics for Psychologists I
PSY 709 - Statistics for Psychologists II
PSY 712 - Psychometrics
PSY 714 - History and Foundations of Clinical Psychology
PSY 715 - Assessment of Children
PSY 716 - Assessment of Adults
PSY 725 - Intervention with Children
PSY 726 - Intervention with Adults
PSY 736 - Psychopathology
PSY 750 - Diversity in Professional Psychology
PSY 755 - Ethics and Professional Issues
PSY 767 - Practicum (required credits: 6)
PSY 769 - Thesis (minimum 2 semesters, required credits: 6). The thesis must be proposed and defended orally.

Doctoral Degree: 48 Total Credit Hours

A master’s degree in psychology equivalent to the above and the following 48 credits:

PSY 767 - Practicum (required credits: 12)
PSY 770 - Dissertation (required credits: 12)
The dissertation must be orally proposed and defended.

PSY 771 - Professional Internship
Psychology Electives Credits: 6
Biological aspects of behavior Credits: 3*
Cognitive and affective aspects of behavior Credits: 3*
Social aspects of behavior Credits: 3*
Developmental Aspects of Behavior Credits: 3*

Note: *Courses must be chosen from approved list in the Student Handbook or be approved by petition of the Clinical Program Committee.

Comprehensive Examination

The Comprehensive examination for the doctoral program will consist of an examination administered once each year. Students may take the exam after they have completed 66 credits and the Master’s thesis.

Other Requirements

Electives consist of any 700-level psychology course. 700-level courses offered by other departments may fulfill the elective requirement with approval of the
student’s advisor and the Clinical Program Committee.

Students must obtain a grade of B- or better in each course taken for that course to count toward the degree. One grade below a B- (i.e., C+ or lower) will result in probation. Once on probation for receiving a grade below a B-, a second grade (in the same or different classes) below a B-, will result in immediate separation from the program. If a student re-takes a course in which s/he received a grade lower than a B- (i.e., C+ or lower) and earns a B- or better, s/he will be removed from probation. A student may only be on academic probation twice during their graduate career in Psychology; a third probation will result in separation from the program. No student shall be allowed more than two simultaneous grades of incomplete, except in the case of a documented and approved medical leave.

Students must conform to all policies of the UNLV Graduate College, as stated in the UNLV Graduate Catalog, those stated in the UNLV Clinical Psychology Doctoral Program Student Handbook, and the American Psychological Association Code of Ethics. Students will be evaluated at least yearly across several professional competencies in the following five areas: (1) academic performance; (2) scholarly research activity; (3) clinical knowledge and skill; (4) ethical behavior and professional conduct; and (5) assistantship performance, if applicable. Inadequate performance in one or more may result in the imposition of additional requirements, loss of Graduate Assistantship, probation, or separation from the program.

Transfer Credits

Admitted clinical students may waive credits or transfer credits from graduate studies in other programs contingent upon departmental approval and in accordance with Graduate College policy.

Doctoral Program in Experimental Psychology

The UNLV Experimental Psychology Doctoral Program trains research psychologists for employment in academic and nonacademic settings. The objective is to produce graduates who will be prepared for a variety of research settings, with a strong emphasis on statistical and methodological skills. This is a mentored program. Each admitted student will work directly with a specific faculty member who will oversee his/her training. The Experimental Psychology program currently admits only students seeking a doctoral degree. The program admits students for matriculation only in the fall semester. The application deadline is December 1st before the fall for which matriculation is being requested. Review of completed applications will continue until all positions are filled. Applicants are encouraged to submit their materials as early as possible.

Admission Requirements

1. A bachelor’s degree from an accredited institution with a minimum GPA of 3.20 (A = 4.00) or a master’s degree or equivalent from an accredited institution with a minimum GPA of 3.50. Applicants with a bachelor’s degree must have completed at least 18 hours in undergraduate psychology courses including Statistics and Research Methods or their equivalents.
2. Satisfactory scores on the Verbal and Quantitative sections of the Graduate Record Examination (GRE).
3. Three letters of recommendation.
4. A statement of purpose written by the applicant.
5. Admission to the program will be based on a mentoring model. Students under serious consideration for admission to the Experimental Program are required to have a personal interview with the sponsoring faculty member and at least two other program faculty members. If a personal
interview is not financially or pragmatically feasible, a telephone interview may be substituted.

Note: Strong applicants who fail to meet one of the Experimental Program admission requirements may still be considered for admission.

**Degree Requirements:**

**Experimental Psychology**

**Master’s Degree: 33 Total Credit Hours**

As a milestone en route to doctoral candidacy, the student must fulfill the following requirements. Upon satisfactory completion of these requirements, a master’s degree shall be awarded. A minimum of 33 credits in graduate psychology that include the following:

**General Emphasis**

- PSY 707 - Research Methods
- PSY 708 - Statistics for Psychologists I
- PSY 709 - Statistics for Psychologists II
- PSY 756 - Ethics, Professional Issues, and Diversity in Experimental Psychology
- PSY 758 - Proseminar in Experimental Psychology (6 credits). Course is repeated each semester during the first two years of study.
- PSY 769 - Thesis (minimum 2 semesters, 6 credits). The thesis must be orally proposed and defended.

Two of the following core courses (6 credits)

- PSY 701 - Biological Bases of Behavior
- PSY 703 - Cognitive Psychology
- PSY 704 - Social Psychology
- PSY 705 - Developmental Psychology

Three (3) Elective Credits

**Cognitive Emphasis**

- PSY 707 - Research Methods
- PSY 708 - Statistics for Psychologists I

- PSY 709 - Statistics for Psychologists II
- Two of the following core courses (6 credits)
- PSY 703 - Cognitive Psychology
- PSY 717 - Cognitive Methods
- PSY 718 - Cognitive Science
- PSY 756 - Ethics, Professional Issues, and Diversity in Experimental Psychology
- PSY 758 - Proseminar in Experimental Psychology (6 credits). Course is repeated each semester during the first two years of study.
- PSY 769 - Thesis (minimum 2 semesters, 6 credits). The thesis must be orally proposed and defended.

Three (3) Elective Credits

**Neuroscience Emphasis**

- PSY 708 - Statistics for Psychologists I
- PSY 709 - Statistics for Psychologists II
- PSY 719 - Behavioral Neuroscience*
- PSY 720 - Systems and Cognitive Neuroscience*

*Students lacking sufficient background in Neuroscience will also take PSY 701: Biological Bases of Behavior prior to taking these core courses.

- PSY 756 - Ethics, Professional Issues, and Diversity in Experimental Psychology
- PSY 758 - Proseminar in Experimental Psychology (6 credits). Course is repeated each semester during the first two years of study
- PSY 769 - Thesis (minimum 2 semesters, 6 credits). The thesis must be orally proposed and defended.

Three (3) Elective Credits

**Developmental Emphasis**

- PSY 708 - Statistics for Psychologists I
- PSY 709 - Statistics for Psychologists II
- PSY 713 - Developmental Research
PSY 721 - Developmental Science Topics (6 credits)
Students are to repeat the course within consecutive semesters.
PSY 756 - Ethics, Professional Issues, and Diversity in Experimental Psychology
PSY 758 - Proseminar in Experimental Psychology
PSY 769 - Thesis (minimum 2 semesters, 6 credits).
The thesis must be orally proposed and defended.
Three (3) Elective Credits

Doctoral Degree: 39 Total Credit Hours
In addition to a master’s degree in psychology equivalent to the one previously described, a minimum of 39 semester hours in graduate psychology is required for the doctoral degree. Required courses for the General, Cognitive, Neuroscience and Developmental Emphases differ somewhat. In each emphasis, the doctoral student will be required to complete a Qualifying Activity before proposing a Dissertation. The purpose of the qualifying activity is for the student to acquire not only the expertise in a given area, but the ability to explain, discuss, and debate questions within that and related areas. Students may choose, in consultation with their advisor, from the following qualifying activities: one extensive qualifying paper, three brief papers, or a written examination.

General Emphasis
Two of the following courses that have not been applied to the student’s master’s degree (6 credits):
PSY 701 - Biological Bases of Behavior
PSY 703 - Cognitive Psychology
PSY 704 - Social Psychology
PSY 705 - Developmental Psychology
Psychology Electives (21 credits)
Electives consist of 700-level psychology courses. 
700-level courses offered by other departments can fulfill the elective requirement with prior approval of the student’s advisor. 600-level courses offered by other departments require prior approval of the student’s advisor and concurrence by the Experimental Program Director.
Two electives that are typically taken by students are:
PSY 757 - Teaching of Psychology
PSY 772 - Experimental Psychology Qualifying Paper Research

Dissertation Requirement
PSY 770 - Dissertation (minimum four semesters which can include summers, 12 credits). The dissertation must be orally proposed and defended.

Cognitive Emphasis
Two of the following cognitive seminar courses (6 credits)*:
PSY 747 - Topics in Perception
PSY 748 - Topics in Memory:
PSY 749 - Topics in Cognitive Processes:
* This can include the seminars listed below or one of the following courses that was not applied to the student’s master’s degree:PSY 703, PSY 717, or PSY 718

Psychology Electives (21 credits)
Electives consist of 700-level psychology courses. 
700-level courses offered by other departments can fulfill the elective requirement with prior approval of the student’s advisor. 600-level courses offered by other departments require prior approval of the student’s advisor and concurrence by the Experimental Program Director.
Two electives that are typically taken by students are:
PSY 757 - Teaching of Psychology
PSY 772 - Experimental Psychology Qualifying Paper Research

Dissertation Requirement
PSY 770 - Dissertation (minimum four semesters which can include summers, 12 credits). The dissertation must be orally proposed and defended.

Neuroscience Emphasis
Psychology Electives (27 credits)
Electives consist of 700-level psychology courses. 
700-level courses offered by other departments can fulfill the elective requirement with prior approval of the student’s advisor. 600-level courses offered by other departments require prior approval of the student’s advisor and concurrence by the Experimental Program Director.
Two electives that are typically taken by students are:
PSY 757 - Teaching of Psychology
PSY 772 - Experimental Psychology Qualifying Paper Research
PSY 772 - Experimental Psychology Qualifying Paper Research

**Dissertation Requirement**
PSY 770 - Dissertation (minimum four semesters which can include summers, 12 credits). The dissertation must be orally proposed and defended.

**Developmental Emphasis**
Three developmental seminar courses (9 credits):
- PSY 740 - Topics in Developmental Psychology
- Two of the following courses that have not been applied to the student’s master’s degree (6 credits):
  - PSY 701 - Biological Bases of Behavior, PSY 719 - Behavioral Neuroscience or PSY 720 - Systems and Cognitive Neuroscience
  - PSY 703 - Cognitive Psychology or PSY 718 - Cognitive Science
- PSY 704 - Social Psychology
- Psychology Electives (12 credits)
  - Electives consist of 700-level psychology courses.
  - 700-level courses offered by other departments can fulfill the elective requirement with prior approval of the student’s advisor.
  - 600-level courses offered by other departments require prior approval of the student’s advisor and concurrence by the Experimental Program Director.
  - Two electives that are typically taken by students are:
    - PSY 757 - Teaching of Psychology
    - PSY 772 - Experimental Psychology Qualifying Paper Research

**Dissertation Requirement**
PSY 770 - Dissertation (minimum four semesters which can include summers, 12 credits). The dissertation must be orally proposed and defended.

PSY 620
**Psychology of Learning**
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the UNLV Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600-level normally requires additional work. **Prerequisites:** Admitted PhD Psychology students only.

PSY 680
**Experimental Psychology**
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the UNLV Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600-level normally requires additional work. **Prerequisites:** Admitted PhD Psychology students only.

PSY 681
**Principles of Psychological Testing**
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the UNLV Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600-level normally requires additional work. **Prerequisites:** Admitted PhD Psychology students only.

PSY 682
**History of Psychology**
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the UNLV Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600-level normally requires additional work. **Prerequisites:** Admitted PhD Psychology students only.

PSY 683
**Theories of Personality**
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the UNLV Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600-level normally requires additional work. **Prerequisites:** Admitted PhD Psychology students only.
work. **Prerequisites:** Admitted PhD Psychology students only.

**PSY 701**  
**Credits 3**  
**Biological Bases of Behavior**  
A detailed examination of the biological processes that underlie behavior including basic structure and function of the nervous system, physiological bases of behavior, and neuroscience approaches to topics such as sensation, perception, learning, memory, emotion, sleep, and development. **Prerequisites:** Admitted PhD Psychology students only and consent of instructor.

**PSY 702**  
**Credits 3**  
**Sensation and Perception**  
Critical review of major theories and issues in perception research, including a discussion of psychophysical methods, general auditory perception, speech, vision, olfaction, gustation, and touch. **Prerequisites:** Admitted PhD Psychology students only and consent of instructor.

**PSY 703**  
**Credits 3**  
**Cognitive Psychology**  
Critical review of theory and findings in cognitive psychology, including an evaluation of research in attention, pattern recognition, the representation of events in memory, and language. **Prerequisites:** Admitted PhD Psychology students only and consent of instructor.

**PSY 704**  
**Credits 3**  
**Social Psychology**  
Overview of current theory and research in social psychology. Both the limitations and implications of social psychological theory explored using current research evidence. Topics include attitude change, social influence, attribution theory, social cognition, and cross-cultural perspectives. **Prerequisites:** Admitted PhD Psychology students only and PSY 460 and consent of instructor.

**PSY 705**  
**Credits 3**  
**Developmental Psychology**  
Survey of cognitive, social, and emotional development from birth through adolescence.

**PSY 706**  
**Credits 3**  
**History of Psychology**  
Examination of the forces which have shaped the development of the discipline and the practice of psychology, including antecedents in philosophy, physiology, and psychotherapy. **Prerequisites:** Admitted PhD Psychology students only and consent of instructor.

**PSY 707**  
**Credits 3**  
**Research Methods**  
Advanced treatment of the issues involved in planning, conducting, and evaluating research. **Prerequisites:** Admitted PhD Psychology students only and consent of instructor.

**PSY 708**  
**Credits 3**  
**Statistics for Psychologists I**  
Treatment of analysis of variance and multiple comparison methods applied to psychological research. **Prerequisites:** Admitted PhD Psychology students only.

**PSY 709**  
**Credits 3**  
**Statistics for Psychologists II**  
Treatment of correlation, multiple regression, chi-square, and analysis of covariance as applied to psychological research. **Prerequisites:** Admitted PhD Psychology students only.

**PSY 710**  
**Credits 3**  
**Multivariate Analysis in Psychology**  
Examination of multivariate statistical techniques including topics such as multivariate analysis of variance and covariance, discriminant function analysis, profile analysis, factor analysis, principal components analysis, and canonical correlation. **Prerequisites:** PSY 708 and PSY 709 or equivalent and admitted PhD Psychology students only.

**PSY 711**  
**Credits 3**  
**Advanced Seminar in Psychological Statistics**
Examination of advanced statistical techniques such as nonparametric statistics, meta-analysis, time-series analysis, and structural equation modeling. **Prerequisites:** PSY 708 and PSY 709 or equivalent and admitted PhD Psychology students only.

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<thead>
<tr>
<th>PSY 712</th>
<th>Credits 3</th>
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<tbody>
<tr>
<td><strong>Psychometrics</strong></td>
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<tr>
<td>Principles of evaluating and constructing psychological tests using psychometric theory and behavioral assessment methodology. <strong>Prerequisites:</strong> Admitted PhD Psychology students only.</td>
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<th>PSY 713</th>
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<tr>
<td><strong>Developmental Research</strong></td>
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<tr>
<td>Application of theory, methods, designs, analyses, and interpretation of research in developmental psychology. <strong>Prerequisites:</strong> Admitted PhD Psychology students only.</td>
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<th>PSY 714</th>
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<tr>
<td><strong>History and Foundations of Clinical Psychology</strong></td>
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<tr>
<td>An overview of the historical development of psychology as well as exploration of current theoretical and skills-based issues in clinical psychology. <strong>Prerequisites:</strong> Admitted PhD Psychology students only and limited to students enrolled in clinical psychology doctoral program.</td>
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<th>PSY 715</th>
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<tr>
<td><strong>Assessment of Children</strong></td>
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<tr>
<td>Theory and practice of psychological assessment of children. <strong>Prerequisites:</strong> Admitted PhD Psychology students only and limited to students enrolled in clinical psychology doctoral program.</td>
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<th>PSY 716</th>
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<tr>
<td><strong>Assessment of Adults</strong></td>
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<tr>
<td>Theory and practice of psychological assessment of adults. <strong>Prerequisites:</strong> Admitted PhD Psychology students only and limited to students enrolled in clinical psychology doctoral program.</td>
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<th>PSY 717</th>
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<tr>
<td><strong>Cognitive Methods</strong></td>
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<tr>
<td>Overview of cognitive and neuroscience research methods, including demonstrations of equipment and software that is used for conducting experiments and analyzing results. <strong>Prerequisites:</strong> Admitted PhD Psychology students only and consent of instructor.</td>
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<th>PSY 718</th>
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<tr>
<td><strong>Cognitive Science</strong></td>
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<tr>
<td>An exploration of topics related to cognition from fields such as perception, neuroscience, computational modeling, artificial intelligence, anthropology, and linguistics. <strong>Prerequisites:</strong> Admitted PhD Psychology students only and consent of instructor.</td>
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<th>PSY 719</th>
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<tr>
<td><strong>Behavioral Neuroscience</strong></td>
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<tr>
<td>Examines the neural basis of behavior including cellular, molecular, and genetic contributions. Topics will include neuronal cellular structure and function, neuroanatomy, experimental methods/techniques, and detailed investigations of the mechanisms involved in various behaviors and neurological/psychological disorders. <strong>Prerequisites:</strong> Admitted PhD Psychology students only and consent of instructor.</td>
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<th>PSY 720</th>
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<tr>
<td><strong>Systems and Cognitive Neuroscience</strong></td>
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<tr>
<td>Examines systems and cognitive neuroscience theories, methods, and data used to understand topics such as perception, attention, action, learning, memory, emotion, social behavior, language, music, and brain disorders. <strong>Prerequisites:</strong> Admitted PhD Psychology students only and consent of instructor.</td>
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<td><strong>Developmental Science Topics</strong></td>
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<tr>
<td>Discussion and critical review of theoretical perspectives and issues in developmental psychology. Topics include aspects of physiological, cognitive, and social development. Course may be repeated. <strong>Notes:</strong> Developmental Emphasis students should repeat the course within consecutive semesters. May be repeated to a maximum of six credits. <strong>Prerequisites:</strong> Admitted PhD Psychology students.</td>
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<tr>
<td><strong>Intervention with Children</strong></td>
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Principles and methods of psychological intervention with children. **Prerequisites:** Admitted PhD Psychology students only and limited to students enrolled in clinical psychology doctoral program.

**PSY 726**  
**Credits 3**  
**Intervention with Adults**  
Principles and methods of psychological intervention with adults. **Prerequisites:** Admitted PhD Psychology students only and limited to students enrolled in clinical psychology doctoral program.

**PSY 727**  
**Credits 3**  
**Seminar in Clinical Psychology**  
In-depth study of selected topics in the science and practice of clinical psychology. Focuses on the etiology, assessment, and treatment of specific clinical disorders such as depression, anxiety-based disorders, autism, substance abuse, sexual dysfunctions and paraphilias, marital dysfunctions. **Notes:** May be repeated to a maximum of nine credits. **Prerequisites:** Completion of year 1 of the Ph.D. Program. Consent of instructor. Admitted PhD Psychology students only.

**PSY 735**  
**Credits 3**  
**Counseling: Theory and Practice**  
Emphasis on counseling problems, techniques, and practice as well as historic and contemporary therapeutic theories. Includes supervised student counseling. **Prerequisites:** Admitted PhD Psychology students only and consent of instructor.

**PSY 736**  
**Credits 3**  
**Psychopathology**  
Advanced treatment of psychopathology covering description, diagnosis, classification, physiological factors, and psychodynamics. **Prerequisites:** Admitted PhD Psychology students only and consent of instructor.

**PSY 737**  
**Credits 3**  
**Child Psychopathology**  
Primary features, etiological theories, and epidemiology of behavior disorders in youth. Major diagnostic groupings covered include internalizing disorders (i.e., anxiety, depression, suicide, social withdrawal), externalizing disorders (i.e. ADHD, conduct disorder, substance abuse), pediatric problems, and developmental disabilities (e.g., autism, mental retardation). **Prerequisites:** Admitted PhD Psychology students only and consent of instructor.

**PSY 740**  
**Credits 3**  
**Topics in Developmental Psychology**  
Analysis of theoretical concepts and research pertinent to the development of the individual. **Notes:** May be repeated to a maximum of 12 credits. **Prerequisites:** Admitted PhD Psychology students only.

**PSY 741**  
**Credits 3**  
**Psychology and Health**  
In-depth study of selected topics in the science of health psychology and/or the practice of behavioral medicine. Emphasis on theoretical foundations and empirical findings. Topics permitting, instruction on the clinical practice of behavioral medicine. **Prerequisites:** Completion of year 1 of PhD program and admitted PhD Psychology students only.

**PSY 742**  
**Credits 3**  
**Psychopharmacology**  
In-depth study of the effects of psychoactive drugs on nervous system function and behavior. Topics include pharmacokinetics, pharmacodynamics, principles of neurotransmission, mechanisms of drug action, theoretical models of drug dependence and experimental approaches to psychopharmacology research. **Prerequisites:** Admitted PhD Psychology students only and consent of instructor.

**PSY 743**  
**Credits 3**  
**Human Sexuality**  
In-depth examination of the social and biological foundations of human sexuality. Includes detailed explorations of the latest research on the human sexual response, the relation of sexuality to psychological adjustment, variations in sexual behavior and identity, sexual dysfunction, and sociocultural issues. **Prerequisites:** Admitted PhD Psychology students only and consent of instructor.
PSY 744 Credits 3
Neuropsychology
Provides in-depth examination of the area of neuropsychology to include information on the historical roots of neuropsychology, organization of the human nervous system, brain-behavior relationships, higher cognitive functions, assessment techniques, neuropathology, neurological conditions, report writing, and developing recommendations for treatment planning. Prerequisites: Admitted PhD Psychology students only and consent of instructor.

PSY 745 Credits 3
Clinical Geropsychology
Assessment and psychological treatment of problems experienced in late life. Prerequisites: Admitted PhD Psychology students only and consent of instructor.

PSY 746 Credits 3
Marital and Family Therapy
Principles and methods of psychological interventions with couples and families. Prerequisites: Admitted PhD Psychology students only and consent of instructor.

PSY 747 Credits 3
Topics in Perception
A seminar that explores the core concepts and recent developments in an area of perception. Potential topics include vision, hearing, taste, touch, and smell. Notes: May be repeated to a maximum of 12 credits. Prerequisites: Admitted PhD Psychology students only and consent of instructor.

PSY 748 Credits 3
Topics in Memory:
Seminar that explores the core concepts and recent developments in an area of memory research. Potential topics include short-term, working, episodic, semantic, procedural, implicit/explicit, and prospective memory. Prerequisites: Admitted PhD Psychology students only and consent of instructor.

PSY 749 Credits 3
Topics in Cognitive Processes:

A seminar that explores the core concepts and recent developments in an area of cognitive processes. Potential topics include reasoning, decision-making, mathematics, problem-solving, and language use. Notes: May be repeated to a maximum of twelve credits. Prerequisites: Admitted PhD Psychology students only and consent of instructor.

PSY 750 Credits 3
Diversity in Professional Psychology
Acquaints students with the growing body of psychological literature on ethnic, age, life style, and other diversity issues. Emphasis on sensitizing students to unique aspects of minority populations, while enhancing their ability to work with individuals from various backgrounds. Prerequisites: Admitted PhD Psychology students only and consent of instructor.

PSY 755 Credits 3
Ethics and Professional Issues
Examination of ethical and professional issues related to the practice of psychology. Prerequisites: Admitted PhD Psychology students only and consent of instructor.

PSY 756 Credits 3
Ethics, Professional Issues, and Diversity in Experimental Psychology
Examination of ethical, professional, and diversity issues related to the practice of experimental psychology. Topics include publishing, grant funding, the professoriate, scientific misconduct, protection of human and nonhuman subjects, and diversity in experimental psychology. Prerequisites: Admitted PhD Psychology students only and consent of instructor.

PSY 757 Credits 3
Teaching of Psychology
Preparation and presentation of teaching material, the grading process, and solicitation of student feedback, among other variables. Prerequisites: Admitted PhD Psychology students only and consent of instructor.

PSY 758 Credits 1 – 3
Proseminar in Experimental Psychology
Weekly forum for students and faculty to discuss professional issues and interdisciplinary research in experimental psychology. Notes: May be repeated to a maximum of three credits. Prerequisites: Admitted PhD Psychology students only and consent of instructor.

**PSY 760**  
**Credits 3**  
**Advanced Psychological Assessment**  
Advanced practice in psychodiagnosis, psychological test administration, scoring, interpretation, and integrated report writing. **Prerequisites:** Admitted PhD Psychology students only and consent of instructor and limited to students enrolled in clinical psychology doctoral program.

**PSY 762**  
**Credits 3**  
**Introduction to Clinical Supervision**  
The practice of competent clinical supervision, focusing on the roles and responsibilities of the supervisor, models and methods of supervision, and legal and ethical issues. Concurrent supervision of practicum students. **Prerequisites:** Admitted PhD Psychology students only and consent of instructor and limited to students enrolled in clinical psychology doctoral program.

**PSY 763**  
**Credits 1**  
**Survey of Community Mental Health Resources**  
Visits to community psychological facilities with presentations by resource professionals. **Grading:** S/F grading only. **Prerequisites:** Admitted PhD Psychology students only.

**PSY 764**  
**Credits 3**  
**Family Counseling Practicum**  
Supervised practice in counseling with families and couples. Emphasis on understanding functioning at the family system. **Prerequisites:** Admitted PhD Psychology students only and consent of instructor.

**PSY 765**  
**Credits 1 – 6**  
**Seminar**  
Explores a specific aspect of psychology. Department approval must be obtained prior to registration. **Notes:** May be repeated to a maximum of six credits.

**Prerequisites:** Admitted PhD Psychology students.

**PSY 766**  
**Credits 1 – 6**  
**Independent Study**  
Individual reading projects under the direction of a faculty member. Department approval must be obtained prior to registration. **Notes:** Student may enroll for 1-6 credits per semester. May be repeated to a maximum of six credits. **Prerequisites:** Admitted PhD Psychology students only.

**PSY 767**  
**Credits 3**  
**Practicum**  
Supervised clinical experience at a departmentally approved site. **Notes:** Department approval must be obtained prior to registration. May be repeated. **Prerequisites:** Admitted PhD Psychology students only.

**PSY 768**  
**Credits 3 – 9**  
**Independent Research**  
Individual research projects under the direction of a faculty member. **Notes:** Department approval must be obtained prior to registration. Student may enroll for 3-9 credits per semester. May be repeated. **Prerequisites:** Admitted PhD Psychology students only.

**PSY 769**  
**Credits 3 – 6**  
**Thesis**  
**Notes:** May be repeated, but only six credits will be applied to the student's program. **Grading:** S/F grading only. **Prerequisites:** Admitted PhD Psychology students only.

**PSY 770**  
**Credits 3 – 12**  
**Dissertation**  
Dissertation must be orally proposed and defended. **Notes:** Student may enroll for 3-9 credits per semester. May be repeated, but only 12 credits will be applied to the student's program. **Grading:** S/F grading only. **Prerequisites:** Admitted PhD Psychology students only. **Corequisite:** Department approval must be obtained prior to registration.

**PSY 771**  
**Credits 1 - 3**
Professional Internship
The student must complete a full calendar year APA-approved clinical psychology internship. During the internship year, students must register for six credits of PSY 771: Professional Internship. Notes: May be repeated, but only six credits will be applied to the student's program. Grading: S/F grading only. Prerequisites: Admitted PhD Psychology students only.

PSY 772 Credits 3
Experimental Psychology Qualifying Paper
Research
Taken by students in the Experimental Psychology Doctoral Program after completing the Master's degree while completing their Qualifying Paper. Notes: Three credits are required for doctoral degree requirements. Grading: S/F grading only. Prerequisites: Admitted PhD Psychology students only and consent of instructor.
Sociology

Chair
Shalin, Dmitri N.
(1991), Professor; B.A., M.A., Leningrad State University; Ph.D., Institute of Sociological Research, U.S.S.R. Academy of Science; M.Phil, Ph.D., Columbia University.

Graduate Coordinator
Gottschalk, Simon
(1992), Professor; B.A., Haifa University (Israel); M.A., University of Houston; Ph.D., University of California, Santa Barbara.

Graduate Faculty
Batson, Christie
(2007), Assistant Professor; B.A., University of Texas, Austin, M.A., Ph.D., the Ohio State University.

Bernhard, Bo
(2002), Associate Professor; B.A., Harvard University; M.A., Ph.D., University of Nevada, Las Vegas.

Borer, Michael
(2008), Assistant Professor; B.A., Lafayette College; MA., Ph.D., Boston University.

Brents, Barbara
(1987), Associate Professor; B.J., M.A., Ph.D., University of Missouri.

Dickens, David
(1984), Professor; B.A., Ph.D., University of Kansas.

Futrell, Robert
(1999), Professor; B.A., University of Kentucky; M.A., Ph.D., University of Kansas.

Keene, Jennifer
(2001), Associate Professor; B.A., Tulane; M.S., Ph.D., Florida State University.

Korgan, Kathryn Hausbeck
(1995), Associate Professor and Senior Associate Dean, Graduate College; B.A., M.A., Ph.D. State University of New York at Buffalo.

Lang, Robert
(2008), Professor; Director, Brookings Mountain West; Interim Director, The Lincy Institute. B.A., Ph.D., Rutgers University.

Monnat, Shannon
(2008), Assistant Professor; B.A., State University of New York.

Parker, Robert E.
(1989), Professor; B.S., Southern Illinois University; M.A., Ph.D., University of Texas at Austin.

Smith, Ronald W.
(1972), Professor and Vice President for Research and Graduate Dean; B.S., Southeast Missouri State College; M.A., Northern Illinois University; Ph.D., Washington State University.

Spivak, Andrew
(2008), Assistant Professor; BBA, University of Oklahoma; B.A., M.A., University of Central Oklahoma; M.A., Ph.D., University of Oklahoma.

Professors Emeriti
Carns, Donald E.
(1973), Professor; B.A., M.A., Southern Illinois University; Ph.D., Indiana University.

Fontana, Andrea
(1976), Professor; B.A., M.A., Ph.D., University of California, San Diego.

Frey, James
The graduate faculty in sociology consists of scholars/teachers who have earned doctorates at some of the leading graduate schools in the country. The DOS offers three graduate program tracks: a terminal MA program; a Ph.D. program for students who have already earned a Masters degree; and a Bachelors to Ph.D. track for qualified students who want to earn their MA and Ph.D. in Sociology at UNLV in a single program. We offer ten areas of specialization: (1) Family, Aging & the Life Course; (2) Culture; (3) Deviance & Criminology; (4) Environment & Health; (5) Race & Ethnic Studies; (6) Gender & Sexuality; (7) Politics & Social Movements; (8) Social Psychology & Theory; (9) Community & Urban Studies; and (10) Demography & Population Studies. The M.A. program has been in place for many years and has graduated men and women who occupy professional, academic and administrative positions across the nation. The Ph.D. program, which began in 1989, has already graduated more than 37 scholars who hold positions in academia, the nonprofit sector, private industry and public service. Graduates from our Ph.D. program are trained in advanced theory and methods, and have well-developed expertise in at least two of our departmental areas of specialization. The Sociology department welcomes applications for MA and Ph.D. programs from candidates who can demonstrate a record of significant academic achievement and potential for professional success in sociology.

Programs

- Sociology M.A.
- Sociology (Bachelor’s to Doctorate Program) Ph.D.
- Sociology (Post - M.A. Program) Ph.D.

Sociology (Bachelor’s to Doctorate Program) Ph.D.

This Doctor of Philosophy in Sociology program is designed for students holding a bachelor’s degree in sociology or a closely related discipline, who have a strong record of academic success, are likely to be highly successful in graduate school, and who have a professional interest in, and commitment to, earning a doctorate in sociology. This program trains students in advanced sociological concepts and applications, as well as advanced theoretical and methodological frameworks for conducting original research. In addition, students develop at least two areas of specialization from among the department’s ten core areas: Family, Aging & the Life Course; Culture; Deviance & Criminology; Environment & Health; Race & Ethnic Studies; Gender & Sexuality; Politics & Social Movements; Social Psychology & Theory; Urban & Community Studies; and Demography & Population Studies. Sociology doctoral students also have the opportunity to participate in our pedagogy and postsecondary teacher training program. Graduates of this program are well prepared for academic research and teaching positions, as well as careers in sociology. Educational outcomes for our doctoral program include: development of expertise in both classical and contemporary sociological theories, mastery of both quantitative and qualitative research methods and data analysis, development of specialized expert knowledge in at least two substantive areas, professional socialization, participation in professional organizations, oral presentation skills, familiarity with the process of academic publication of original research, and cultivation of analytical research and writing skills which culminate in the ability to author an original doctoral dissertation of substantial depth and quality.

Graduate-level course work in sociology is restricted to students with graduate standing or graduate provisional status in the department, or to those students who have obtained prior written consent from instructors of specific courses in which enrollment is sought and from the graduate coordinator. Please refer to the Sociology Graduate Student Handbook for additional updated information, policies and procedures.

Admissions Requirements
The annual deadline for applications is December 1. We only admit new students in Fall semesters. Prospective students must apply for admission via the AY electronic system. See the UNLV Graduate College website for forms and additional information about how apply.

1. A bachelor’s degree in sociology from an accredited institution.
2. Satisfactory scores that are less than five years old on the general Graduate Record Examination.
3. At least three letters of recommendation, preferably from faculty members who know the student’s work, evaluating the student’s ability to perform at the Ph.D.-level of study. These should include comments on the student’s academic performance, motivation, character, and promise for success in the Ph.D. program.
4. A statement of purpose, written by the applicant, that evidences all of the following: writing skills, professionalism, educational and professional/career objectives, specific areas of interest in sociology generally, and in the UNLV Department of Sociology specifically.
5. Two original writing samples of substantial length and quality that indicate student’s writing and analytical skills, as well as sociological knowledge.
6. International students must take both the TOEFL and the Test of Written English and receive satisfactory scores on both.
7. Applicants interested in applying for a Graduate Assistantship, should indicate this in their written statement and submit the appropriate Graduate Assistantship Application form to the Graduate College (this form is available from the Graduate College).

**Degree Requirements**

1. Bachelor’s to Doctoral students must complete a minimum of 60 credit hours in courses designated for graduate study in sociology as well as a minimum of 12 dissertation credits, for a total of at least 72 credits. Dissertation credits may only be taken after the student successfully defends his/her dissertation prospectus and submits the required paperwork to the Graduate College. Students may not take more than six Dissertation credits per semester.
   a. Students must complete the sequence of core, required courses:
      SOC 701 - Logic of Social Inquiry
      SOC 702 - Quantitative Methods
      SOC 704 - Advanced Analytical Techniques
      SOC 705 - Qualitative Methods
      SOC 707 - Proseminar I
      SOC 708 - ProSeminar II
      SOC 723 - Classical Sociological Theory
      SOC 724 - Issues in Contemporary Sociological Theory
   b. After successful completion of SOC 701, SOC 702, SOC 704, SOC 705, SOC 707, SOC 723, and SOC 724, a minimum of 36 total course credits, three credits of thesis or professional paper, and the thesis or professional paper process (proposal, research, writing, oral defense and journal submission), students may leave the Ph.D. program track with a Masters degree. See section 5 below for additional information.
   c. Of the 60 required course credit hours, a maximum of six hours may be used as Flex Credits toward any combination of the following: Independent Study; Directed Reading; an approved

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600-level Sociology course that is unavailable at the 700 level; and/or an approved 700 level course in a related discipline.

d. Doctoral students must identify two additional areas of specialization and complete a minimum of six credits of study in each area.

e. Students must complete a minimum of three credits in Field Research, Internship or Teaching Sociology: SOC 790 - Sociological Internship, SOC 791 - Field Experience in Sociology or SOC 709 - Teaching Sociology, as well as 3 credits of Professional Paper before defending their Professional Paper and submitting it to a reputable sociology journal for peer review (See #2 below).

f. A minimum of 54 course credits must be completed in 700-level Sociology courses.

g. A maximum of six credit hours may be taken in approved 700-level graduate courses in a related discipline.

h. Students are strongly encouraged to enroll in SOC 709, Learning to Teach Sociology. Doctoral students who have completed comprehensive exams and SOC 709 maybe eligible for autonomous teaching.

i. Doctoral students teaching their own autonomous courses must be simultaneously enrolled in: SOC 710 - Teaching Practicum. After one semester of taking SOC 710 for credit, graduate student instructors may audit the class.

j. Any grade below a B will not be accepted for graduate credit. A grade below a B will result in probation. Students receiving two grades below a B, in the same or different courses, will be separated from the program.

k. Students may only be on academic probation twice during their graduate career in Sociology; a third probation will result in separation from the program.

l. No student shall be allowed more than two simultaneous grades of Incomplete, except in the case of documented and approved emergency or medical leave.

m. Please see the Sociology Graduate Program Handbook for additional up-to-date information about program rules, regulations, guidelines, processes and procedures.

2. Bachelor’s to Doctorate students must establish an Examination Committee, hold a professional paper proposal meeting, author and defend an original piece of research or theory which is then signed-off on by committee members and submitted for peer-review to a reputable sociology journal. The paper need not be accepted for publication for the student to continue matriculating in the program, but the manuscript must make a significant scholarly contribution and be of a high enough quality to merit peer review.

a. Students must orally present and defend their completed professional paper to her or his Examination Committee, and receive majority approval.

b. After the successful defense of their professional paper, students must receive signatures of support from their Committee Chair and a majority of other Committee members prior to submitting their manuscript to an approved peer-review sociology journal.

c. Students may complete this stage of the program only after successfully completing all core required courses, as well as a
3. In addition to a minimum of 60 hours of course work and 12 hours of Dissertation credits, Doctoral students must successfully pass two comprehensive examinations in their chosen areas of specialization. Students should refer to the detailed guidelines governing the comprehensive exam process available in the Sociology Department (See Appendix 1).
   a. The comprehensive exams will each be offered once a semester. Students are strongly encouraged to take both exams in their third year.
   b. Students intending to take these exams must notify the graduate coordinator and senior management assistant by the second week of the semester in which they intend to take them.
   c. Students may not take either exam until they have completed all required course work in these areas.
   d. Students are expected to prepare for their comprehensive exams by reviewing class materials, meeting with their Doctoral Examination Committee, meeting with faculty who specialize in the exams areas, and doing systematic independent preparation, including coverage of the required reading lists.
   e. Each of the two specialty area comprehensive exams are in one of the student’s areas of specialization. These specialty area comprehensive exams reflect logical and substantive depth and breadth of knowledge of these areas.
   f. There are five possible grades for the comprehensive exams: Pass with Honors; Pass; Conditional Pass with Rewrites (to be completed within two weeks of notification); Major Revisions (to be completed within two weeks of notification); or Fail.
   g. A student must retake a failed comprehensive exam within one semester and successfully pass on the second attempt in order to remain in the program. A second failure in the same area will result in separation from the program. During the period of time between the initial Fail on a comprehensive exam and the retake, the student may not take any other comprehensive exam.
   h. The two comprehensive exams must be completed prior to the student’s Dissertation Prospectus
defense and advancement to candidacy.

4. Doctoral students are required to complete a minimum of 12 credits of Dissertation hours: SOC 799, write an original dissertation of substantial quality and length on a sociological topic, and successfully defend this work in front of the student’s Doctoral Examination Committee.
   a. Students must establish a Doctoral Examination Committee consisting of at least three Graduate Faculty members in Sociology and one Graduate College representative with Full Graduate Faculty Status from another discipline.
   b. An approved degree program form must be filed with the Sociology Graduate Coordinator and the Graduate College by the end of the student’s third semester in the program; this form must be filled out in consultation with the student’s Doctoral Examination Committee.
   c. Students must work with their Doctoral Examination Committee to ensure quality research, analysis and writing of the comprehensive exams and dissertation.
   d. Satisfactory performance on an oral defense of the dissertation prospectus -- to be held after the successful completion of all course work and the two comprehensive examination -- is required. The oral defense will cover the student’s dissertation proposal and any deficiencies on the comprehensive exams or in the student’s program of study. Upon successful completion of the oral defense of the dissertation prospectus, the student may advance to candidacy and enroll in dissertation credits.
   e. Upon completion of the dissertation, a final oral defense will be held in front of the student’s Doctoral Examination Committee.
   f. Committee members must unanimously pass the student on her or his oral defense for the Ph.D. to be conferred.

5. Bachelor’s to Doctorate students who, for personal, professional or academic reasons, decide not to continue on for a Ph.D. may be eligible for an optional exit plan with a Masters degree, contingent upon recommendation of approval by the student’s Doctoral Examination Committee, the DOS Graduate Committee & Graduate Coordinator(s), and the DOS Chair.
   a. Students in good standing in the graduate program, who have completed 40 or fewer credits (including all core required courses) and have not successfully defended and submitted their professional paper to a peer-review sociology journal may simply petition to switch to the MA program professional paper track. If approved, all standard requirements (see above) for the MA must be met for the degree to be conferred.
   b. Students in good standing in the graduate program, who have completed more than 40 credits and have successfully authored and defended a professional paper that has been submitted for peer-review to a sociology journal may simply apply to receive their MA degree.
   c. Students who are not in good academic standing (i.e. are on probation, have failed one or more comprehensive exams, etc.) may petition their Doctoral Examination Committee, the Graduate Coordinator and the DOS Chair to discontinue their trajectory at the MA level. These requests will be reviewed on a case-by-case basis,
taking into consideration whether or not the student is being separated from the doctoral program (and if so, under what circumstances), the student’s progress and stage in the program, and whether the student has completed, or is believed to be able to complete, all requirements for the MA degree.

Sociology (Post - M.A. Program) Ph.D.

This Doctor of Philosophy in Sociology program is designed for students holding a MA degree in sociology or a closely related discipline who have a strong record of academic success, are likely to be highly successful in graduate school, and who have a professional interest in, and commitment to, earning a doctorate in sociology. This program trains students in advanced sociological concepts and applications, as well as advanced theoretical and methodological frameworks for conducting original research. This Doctor of Philosophy in Sociology program is designed for students holding a MA degree in sociology or a closely related discipline who have a strong record of academic success, are likely to be highly successful in graduate school, and who have a professional interest in, and commitment to, earning a doctorate in sociology. This program trains students in advanced sociological concepts and applications, as well as advanced theoretical and methodological frameworks for conducting original research. In addition, students develop at least two areas of specialization from among the department’s ten core areas: Family, Aging & the Life Course; Culture; Deviance & Criminology; Environment & Health; Race & Ethnic Studies; Gender & Sexuality; Politics & Social Movements; Social Psychology & Theory; Community & Urban Studies; and Demography & Population Studies. Sociology doctoral students also have the opportunity to participate in our pedagogy and postsecondary teacher training program. Graduates of this program are well prepared for academic research and teaching positions, as well as careers in sociology. Educational outcomes for our doctoral program include: development of expertise in both classical and contemporary sociological theories, mastery of both quantitative and qualitative research methods and data analysis, development of specialized expert knowledge in at least two substantive areas, professional socialization, participation in professional organizations, oral presentation skills, familiarity with the process of academic publication of original research, and cultivation of analytical research and writing skills which culminate in the ability to author an original doctoral dissertation of substantial depth and quality. Graduate-level course work in sociology is restricted to students with graduate standing or graduate provisional status in the department, or to those students who have obtained prior written consent from instructors of specific courses in which enrollment is sought and from the graduate coordinator. Please refer to the Sociology Graduate Student Handbook for additional updated information, policies and procedures.

Admission Requirements

The annual deadline for applications is December 1. We only admit new students in Fall semesters. Prospective students must apply for admission via the AY electronic system. See the UNLV Graduate College website for forms and additional information about how apply.

1. A master’s degree in sociology from an accredited institution in which applicant wrote and successfully defended a master’s thesis.
2. Satisfactory scores that are less than five years old on the general Graduate Record Examination.
3. At least three letters of recommendation, preferably from faculty members who know the applicant’s work, evaluating his/her ability to perform at the Ph.D.-level of study. These should include comments on the student’s academic performance, motivation, character, and promise for success in the Ph.D. program.
4. A statement of purpose written by the applicant. Applicants are expected to explain their educational objectives, interests, and professional goals.

5. M.A.-level thesis or at least two original papers of substantial length and quality in an area of sociological inquiry solely written by the applicant.

6. International students must take both the TOEFL and the Test of Written English and receive satisfactory scores on both.

7. Applicants interested in applying for a Graduate Assistantship should indicate this in their written statement and submit the appropriate Graduate Assistantship Application form to the Graduate College (this form is available from the Graduate College).

Degree Requirements

1. Doctoral students must complete a minimum of 40 credit hours in courses designated for graduate study in sociology and a minimum of 12 Dissertation credits. Dissertation credits may only be taken after students successfully defend their dissertation prospectus and submit the required paperwork to the Graduate College. Students may not take more than six Dissertation credits per semester.

   a. Ph.D. students must complete the three-semester sequence of core, required courses:

   SOC 701 - Logic of Social Inquiry
   SOC 702 - Quantitative Methods
   SOC 704 - Advanced Analytical Techniques
   SOC 705 - Qualitative Methods
   SOC 707 - Proseminar I
   SOC 723 - Classical Sociological Theory
   SOC 724 - Issues in Contemporary Sociological Theory

   b. Students must complete one additional advanced 700-level Sociology course in theory and one additional advanced 700-level Sociology course in statistics or research methods, or equivalents approved by student’s Doctoral Examination Committee Chair and the Graduate Coordinator.

   c. Of the 40 required course credit hours, a maximum of six hours may be used as Flex Credits toward any combination of the following: Independent Study; Directed Reading; an approved 600-level Sociology course that is unavailable at the 700 level; and/or approved 700-level course in another department.

   d. A maximum of six credits of Independent Study or Directed Readings are allowed at the Ph.D. level.

   e. A maximum of six credit hours may be taken in an approved 700 level graduate course in a related discipline.

   f. Doctoral students must identify two areas of specialization (Family, Aging & the Life Course; Culture; Deviance & Criminology; Environment & Health; Race & Ethnic Studies; Gender & Sexuality; Politics & Social Movements; Social Psychology & Theory; Community & Urban Studies; and Demography & Population Studies) and complete a minimum of six credits of advanced study in each area.

   g. A minimum of 34 course credits must be completed in 700-level Sociology courses.

   h. Ph.D. candidates are strongly encouraged to enroll in SOC 709, Learning to Teach Sociology. Doctoral students who have successfully completed SOC 709 may be eligible for autonomous teaching.

   i. Doctoral students teaching their own autonomous courses must be simultaneously enrolled in: SOC 710 - Teaching Practicum; after one semester of taking SOC 710 for credit, graduate student instructors may audit the class.

   j. Any grade below a B will not be accepted for graduate credit. A grade below a B will result in probation. Students receiving two grades below a B,
in the same or different courses, will be separated from the program.

k. Students may only be on academic probation twice during their graduate career in Sociology; a third probation will result in separation from the program.

l. No student shall be allowed more than two simultaneous grades of Incomplete, except in the case of documented and approved emergency or medical leave.

m. Please see the Sociology Graduate Program Handbook for additional up-to-date information about program rules, regulations, guidelines, processes and procedures.

2. In addition to a minimum of 40 hours of course work and 12 hours of Dissertation credits, Doctoral students must successfully pass two comprehensive examinations in their chosen areas of specialization. Students should refer to the detailed guidelines governing the comprehensive exam process available in the Sociology Department (See Appendix 1).

a. The comprehensive exams will each be offered once a semester. Students are strongly encouraged to take both exams in their third year.

b. Students intending to take these exams must notify the graduate coordinator and senior management assistant by the second week of the semester in which they intend to take them.

c. Students may not take either exam until they have completed all required course work in these areas.

d. Students are expected to prepare for their comprehensive exams by reviewing class materials, meeting with their Doctoral Examination Committee, meeting with faculty who specialize in the exams areas, and doing systematic independent preparation, including coverage of the required reading lists.

e. Each of the two specialty area comprehensive exams are in one of the student’s areas of specialization. These specialty area comprehensive exams reflect logical and substantive depth and breadth of knowledge of these areas.

f. There are five possible grades for the comprehensive exams: Pass with Honors; Pass; Conditional Pass with Rewrites, (to be completed within two weeks of notification); Major Revisions (to be completed within two weeks of notification), or Fail.

g. A student must retake a failed comprehensive exam within one year and successfully pass on the second attempt in order to remain in the program. A second failure in the same area will result in separation from the program. During the period of time between the initial Fail on a comprehensive exam and the retake, the student may not take any other comprehensive exam.

h. The two comprehensive exams must be completed prior to the student’s Dissertation Prospectus defense and advancement to candidacy.

3. Doctoral students are required to complete a minimum of 12 credits of Dissertation hours: (SOC 799), write an original dissertation of substantial quality and length on a sociological topic, and successfully defend this work in front of their Doctoral Examination Committee.

a. Students must establish a Doctoral Examination Committee consisting of at least three Graduate Faculty members in Sociology and one Graduate College representative with Full Graduate Faculty status from another discipline.

b. An approved degree program form must be filed with the Sociology Graduate Coordinator and the Graduate College by the end of the student’s third semester in the program; this form must be filled out in consultation with the student’s Doctoral Examination Committee.

c. Students must work with their Doctoral Examination Committee to ensure quality research, analysis and writing of the comprehensive exams and dissertation.

d. Satisfactory performance on an oral defense of
the dissertation prospectus to be held after the successful completion of all course work and the two comprehensive examination is required. The oral defense will cover the student’s dissertation proposal and any deficiencies on the comprehensive exams or in the student’s program of study.

(e) Upon successful completion of the oral defense of the dissertation prospectus, the student may advance to candidacy and begin enrolling in dissertation credit.

(f) Upon completion of the dissertation, a final oral defense will be held in front of the student’s Doctoral Examination Committee. Committee members must unanimously pass the student on her or his oral defense for the Ph.D. to be conferred.

**Sociology M.A.**

The Master of Arts in Sociology program provides students with pre-doctoral training as well as preparation for entry into governmental, nonprofit and private sector employment that deals with community development and organizing, social issues, social policy and social research. Students may choose between two culminating scholarly experiences: the thesis track, or a professional paper. Educational outcomes for our M.A. program include: development of scholarly and professional expertise in familiarity with both classical and contemporary sociological theories, mastery of both quantitative and qualitative research methods and data analysis, the development of a sociological imagination, and cultivation of analytical research and writing skills which culminate in the ability to either author an independent thesis of substantial depth and quality or a professional paper. Graduate-level course work in sociology is restricted to students with graduate standing or graduate provisional status in the department, or to those students who have obtained prior written consent from instructors of specific courses in which enrollment is sought and from the graduate coordinator.

**Admission Requirements**

The annual deadline for applications is December 1. We only admit new students in Fall semesters. Prospective students must simultaneously apply for admission to the Graduate College and the Department of Sociology. See the UNLV Graduate College website for forms and additional information about how to apply to the Graduate College.

1. Applicants should have completed a minimum of 18 credits in sociology. These must include courses such as Introduction to Sociology, Sociological Theory, Research Methods and Statistics. Applicants must have a GPA in sociology, and overall, of at least 3.00 to be accepted into the program.

2. An original copy of GRE scores on the General Exam (which must be less than 5 years old); there are no exceptions. Please note that instead of having minimum GRE scores, we consider GRE results as one among many indicators of your graduate success and evaluate them as one part of the overall application.

3. A minimum undergraduate grade point average of 3.00.

4. At least three letters of recommendation, preferably from faculty members who can knowledgeably evaluate applicant’s ability to do graduate-level work. These should include comments on the applicant’s academic performance, motivation, character, and promise for success in the M.A. program.

5. A written statement of intent from the student explaining academic background, interests in sociology, and professional career goals.

6. An academic writing sample, preferably one that shows evidence of applicant's written communication and analytical skills, as well as sociological imagination.
7. International students must take both the TOEFL and the Test of Written English and receive satisfactory scores on both.

8. Applicants interested in applying for a Graduate Assistantship, should indicate this in their written statement and submit the appropriate Graduate Assistantship Application form to the Graduate College (this form is available from the Graduate College). The department will consider all evidence listed above in evaluating the student for potential entry in the program.

Degree Requirements

1. Master of Arts students must complete a minimum of 35 credit hours in courses designated for graduate study in sociology.

   a. Of the 35 credits, six credits must be in:
      SOC 798 - Thesis
      if pursuing the thesis option; for students doing the professional paper, three credits must be in:
      SOC 794 - Professional Paper
      and another three credits must be in either:
      SOC 790 - Sociological Internship
      or
      SOC 791 - Field Experience in Sociology

   b. M.A. students must complete the sequence of core, required courses:
      SOC 701 - Logic of Social Inquiry
      SOC 702 - Quantitative Methods
      SOC 704 - Advanced Analytical Techniques
      SOC 705 - Qualitative Methods
      SOC 707 - Proseminar I
      SOC 708 - ProSeminar II
      SOC 723 - Classical Sociological Theory
      SOC 724 - Issues in Contemporary Sociological Theory

2. Of the 27 required course credit hours, a maximum of 3 hours may be used as Flex Credits toward any combination of the following: Independent Study; Directed Reading; an approved 600-level Sociology course that is unavailable at the 700 level; and/or an approved 700 level course in a related discipline.

3. A minimum of 32 credits must be completed in 700-level Sociology courses.

4. Grades below a B will not be accepted for graduate credit. A student receiving a grade of less than a B, will be put on probation. Once on probation, a student receiving any additional grades less than a B (in the same class or in different courses) will be separated from the program.

5. No student shall be allowed more than two simultaneous grades of Incomplete, except in the case of documented and approved medical leave.

6. Please see the Sociology Graduate Program Handbook for additional information about program rules, regulations, guidelines and processes.

   Master of Arts students are required to conduct original research, write and defend a thesis, or, conduct community fieldwork or participate in a community internship, write and defend a professional paper. Students who intend to pursue their graduate education beyond their Masters in Sociology are strongly encouraged to choose the Thesis option. Students must establish a Master of Arts Examination Committee consisting of at least three Graduate Faculty members in Sociology and one Graduate College representative from another discipline. Students must work with their M.A. Examination Committee to hold a prospectus proposal meeting, ensure quality research, analysis and writing in the final Thesis or Professional Paper. Upon completion of the thesis or professional paper, a final oral examination must be held in front of the student’s M.A. Examination Committee. Committee
members must unanimously pass the student for the M.A. degree to be conferred.

SOC 602 Credits 3
Sociology and Literature
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

SOC 603 Credits 4
Techniques of Social Research
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

SOC 603L Credits 0
Techniques of Social Research Lab
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

SOC 604 Credits 4
Statistical Methods in the Social Sciences
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

SOC 604L
Statistical Methods in the Social Sciences Lab
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

SOC 607 Credits 3
Environment and Society
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**SOC 615**  
**Credits 3**  
**World Population Problems**  
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**SOC 616**  
**Credits 3**  
**Sociology of Work and Occupations**  
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**SOC 617**  
**Credits 3**  
**Sociology and Leisure**  
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**SOC 621**  
**Credits 3**  
**Classical Social Theory**  
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**SOC 622**  
**Credits 3**  
**Contemporary Sociological Theory**  
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**SOC 627**  
**Credits 3**  
**Comparative Racial and Ethnic Relations**  
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**SOC 628**  
**Credits 3**  
**Special Topics in Comparative Societies**  
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**SOC 629**  
**Credits 3**  
**Globalization: Economic, Political, and Cultural Perspectives**  
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**SOC 631**  
**Credits 3**  
**Crime and Criminal Behavior**  
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**SOC 633**  
**Credits 3**  
**Juvenile Delinquency**  
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**SOC 634**  
**Credits 3**  
**Penology & Social Control**  
The social and historical development of prison systems and other forms of social control, as well as sociological theories of punishment. Includes recent research on prison population growth, offender rehabilitation, deterrence, recidivism, correctional
administration, and inmate culture, as well as political repression and other related topics.

SOC 641 Credits 3
Social Inequality
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

SOC 642 Credits 3
Sociology of Gambling
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

SOC 643 Credits 3
Urban Sociology
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

SOC 644 Credits 3
Sociology of Occupations and Professions
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

SOC 645 Credits 3
Men in Society
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

SOC 646 Credits 3
Bureaucracy in Society
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

SOC 647 Credits 3
Marriage and the Family
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

SOC 649 Credits 3
Sex and Social Arrangements
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

SOC 651 Credits 3
Russian Society in Transition
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

SOC 652 Credits 3
Sociology of Youth Cultures
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

SOC 653 Credits 3
Gender and Society
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

SOC 655 Credits 3
Social Movements and Social Change
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**SOC 660**  
**Critical Sociology**  
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**SOC 661**  
**Self and Society**  
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**SOC 662**  
**Mass Communications**  
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**SOC 665**  
**Collective Behavior**  
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**SOC 666**  
**Sociology of Medicine**  
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**Sociology of Science**  
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**SOC 670**  
**Sociology of Deviance**  
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**SOC 671**  
**Race and Ethnic Relations in America**  
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**SOC 673**  
**Sociology of Mental Illness**  
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**SOC 674**  
**Sociology of Religion**  
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**SOC 675**  
**Political Sociology**  
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.
SOC 676
Sociology of Education
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

SOC 678
Women and Society
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

SOC 681
Sociology of Substance Use, Abuse, and Addiction
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

SOC 682
Aging and Social Policy
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

SOC 684
Sociology of Death and Dying
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

SOC 688
Architectural Sociology
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

SOC 690
Seminar
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

SOC 697
Special Topics in Sociology
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

SOC 701
Logic of Social Inquiry
Advanced introduction to theoretical and methodological approaches in contemporary sociology and their interrelationship. Emphasis on three major paradigms in contemporary sociological research, their assumptions, operational strategies and policy implications. Notes: May be repeated to a maximum of six credits. Prerequisites: Consent of graduate coordinator.

SOC 702
Quantitative Methods
In-depth review of procedures and issues associated with research design, measurement, sampling, and questionnaire construction in the conduct of survey research, experimentation, and other quantitative research techniques utilized by sociologists. Notes: May be repeated to a maximum of six credits. Prerequisites: Consent of graduate coordinator.

SOC 704
Advanced Analytical Techniques
Advanced data base creation and analysis including study of appropriate statistics, mainframe computer experience with mass data software, analytical techniques with varying methodologies, data modelling. Notes: May be repeated to a maximum of
eight credits. **Prerequisites**: Consent of graduate coordinator.

**SOC 705**  
**Qualitative Methods**  
3 Credits  
Gives students in-depth training in a variety of qualitative methods, both traditional and new (participant observation, latent content analysis, semiotics, deconstruction, conversation analysis, feminist methodology and critique, etc.). Explores both the theoretical justifications of each method and gives a hands-on experience in their various applications. **Notes**: May be repeated to a maximum of six credits. **Prerequisites**: SOC 701, consent of graduate coordinator.

**SOC 706**  
**Seminar in Advanced Statistical Analysis in the Social Sciences**  
3 Credits  
Examines current approaches to statistical modeling of discrete outcomes. Includes loglinear modeling, logistic regression, and event history analysis. Emphasis on mathematical specification of these approaches, usage of software packages for model estimation and interpretation of results. **Prerequisites**: SOC 702, SOC 704, and consent of instructor.

**SOC 707**  
**Proseminar I**  
1 Credit  
Course in professional socialization and introduction to graduate program in Sociology. Learn skills necessary for successful matriculation in the graduate program and in academia. Topics include: introduction to faculty research; review of program stages and requirements; conference participation; publishing; CV building. **Prerequisites**: Consent of instructor.

**SOC 708**  
**ProSeminar II**  
1 Credit  
Course in professional socialization. Topics include: conference presentations, comprehensive exam preparation, abstract construction, scholarly writing and publishing, CV building, professional networking, and job market skills. **Notes**: Required for doctoral students; recommended for master's students. **Prerequisites**: ProSeminar I or consent of graduate coordinator.

**SOC 709**  
**Teaching Sociology**  
3 Credits  
Provides a key link for future teaching sociologists, assisting them to make the switch from consumers to educators of the sociological perspective. Places equal emphasis on theoretical issues surrounding teaching with the everyday logistical details of effectively managing a university classroom. **Prerequisites**: Graduate standing.

**SOC 710**  
**Teaching Practicum**  
1 Credit  
Sociology graduate students teaching autonomous classes are required to take this course. Topics covered include: applied pedagogical theory, student learning styles, assignment and test construction, grading, teaching technologies, and creative strategies for teaching particular sociological theories, methodologies and concepts. **Notes**: May be repeated to a maximum of two credits. **Prerequisites**: SOC 709 or consent of graduate coordinator.

**SOC 713**  
**Seminar in Sport and Leisure**  
3 Credits  
Topics announced each semester.

**SOC 714**  
**Seminar in Work and Occupations**  
3 Credits  
Examination of occupations and the concept of work from the perspective of contemporary sociological research. **Notes**: Selected topics of work and occupations announced each semester. May be repeated to a maximum of six credits. **Prerequisites**: Consent of instructor or graduate advisor.

**SOC 717**  
**Urban Demography and Population Studies**  
3 Credits  
Training in quantitative techniques used by researchers in urban population studies. Students will become familiar with available sources of data, the measures of population composition and change, and will receive practical training on how to conduct their
own research. **Prerequisites:** SOC 702, SOC 704 and SOC 711.

**SOC 719**  
**Seminar in Deviance and Disorganization**  
Credits 3  
Selected topics of deviance and disorganization with specific topics to be announced each semester.

**SOC 723**  
**Classical Sociological Theory**  
Credits 3  
In-depth analysis of the major figures in classical sociological theory. Primary focus on the works of Marx, Weber, Durkheim and Mead, supplemented by a brief discussion of other significant theorists (Comte, Spencer, Simmel, etc.). **Prerequisites:** Consent of graduate coordinator.

**SOC 724**  
**Issues in Contemporary Sociological Theory**  
Credits 3  
Examines major issues in contemporary sociological theory. **Prerequisites:** SOC 723 and consent of graduate coordinator.

**SOC 725**  
**Seminar in Pragmatist Hermeneutics**  
Credits 3  
Sociological examination of interpretation theory, its historical development, and contemporary applications. Traces the evolution of key ideas from ancient philosophy and biblical exegesis to pragmatist semiotics that moved hermeneutics beyond its traditional preoccupation with texts and toward the embodied, emotionally laden forms of signification. **Prerequisites:** SOC 701, SOC 723 and SOC 724 or consent of instructor.

**SOC 726**  
**Current Debates in Social Theory**  
Credits 3  
Advanced seminar in social theory. Includes a series of approximately three to four debates and/or new perspectives in current social theory literature. In-depth analysis of most up-to-date ideas and issues in social theory. **Notes:** Different topics covered each time course offered. **Prerequisites:** SOC 701, SOC 723, SOC 724 or consent of instructor.

**SOC 733**  
**Advanced Social Documentation: Las Vegas**  
Credits 3 or 6  
Application of multiple theories and methods of social documentation and community studies. Students read classic works of social documentation, as well as conduct their own field research projects in and around Las Vegas utilizing multiple means of documentation, including ethnography, digital imaging, social mapping, GIS, and interviews. **Prerequisites:** Graduate standing and consent of instructor.

**SOC 737**  
**Seminar in Criminological Theories**  
Credits 3  
Specific topics and theories to be announced each semester.

**SOC 741**  
**Graduate Seminar in Social Stratification**  
Credits 3  
Analyzes the major systems of stratification including, but not limited to, race, class, and gender. Emphasis on U.S. and examines interrelationships among the various forms of social inequality. **Prerequisites:** Graduate standing.

**SOC 742**  
**Sociology of Gambling**  
Credits 3  
Provides sophisticated understanding of sociological perspectives of gambling. Recreational gambling behaviors among a variety of subpopulations examined. Phenomenon labeled as problem gambling by medical experts also explicitly addressed as well as legislative attempts to confront social costs. **Prerequisites:** Graduate standing or consent of instructor.

**SOC 743**  
**Seminar in Urbanism and Urbanization**  
Credits 3  
Specific topics announced each semester. **Notes:** May be repeated to a maximum of six credits. **Prerequisites:** Consent of instructor or graduate advisor.

**SOC 745**  
**The Family-Work Nexus**  
Credits 3  
Examines integral, changing relationship between family and work, emphasizing systematic connection between the two. Includes linkages between work
and family; socially constructed gender inequality through work and family activities; and work and family interconnections and conflicts within families whose interests vary. **Prerequisites:** Graduate standing.

**SOC 746**  
**Credits 3**  
**Seminar in Organizational Theory and Problems**  
Specific theories and topics announced each semester. **Notes:** May be repeated to a maximum of six credits. **Prerequisites:** Consent of instructor or graduate advisor.

**SOC 747**  
**Credits 3**  
**Seminar in Marriage and the Family**  
Specific topics announced each semester. **Notes:** May be repeated to a maximum of six credits. **Prerequisites:** Consent of instructor or graduate advisor.

**SOC 748**  
**Credits 3**  
**Gender, Sex, Society**  
Advanced survey course and seminar on the sociology of gender, sex and sexuality. How does the sex/gender system operate within and through social structures? How are gender/sex/sexuality socially constructed? Examines these questions and ways in which gender/sex/sexuality are historically shaped and intertwined. **Prerequisites:** Graduate standing.

**SOC 749**  
**Credits 3**  
**Sociology of Gender and Work**  
Political-economic analysis of the organization of work, production and reproduction of labor, and linkages between paid work in the market and unpaid work in the home. Specific topics include occupational sex segregation, segmented labor markets, dialectics of paid and unpaid labor, comparable worth, feminism and bureaucracy, emotional work, domestic labor and strategies for change. **Prerequisites:** Graduate standing.

**SOC 750**  
**Credits 3**  
**Seminar in the Sociology of Sex**  
Surveys main theories and debates in sociology of sex and sexuality. Examines sex in relation to economic, cultural, political, international and historical contexts, and in relation to gender, class and racial systems of stratification. **Prerequisites:** Graduate standing.

**SOC 751**  
**Credits 3**  
**International Issues: Gender, Sex, Globalization**  
Addresses multicultural feminisms, globalization, human/women's rights, and workings of sex/gender systems in various regions of the world. **Prerequisites:** Graduate standing.

**SOC 752**  
**Credits 3**  
**Global Migrations**  
Seminar examining immigration to the United States. Evaluates structural factors that compel people to cross international boundaries, integration and settlement, and responses to such migratory patterns. Focus placed on immigrant labor, undocumented status, laws and policies, settlement and integration, gender, and new directions in immigration research.

**SOC 753**  
**Credits 3**  
**Racial Justice and Latina/os**  
Seminar exploring the socio-historical and contemporary experiences of Latina/os in the United States. Topics include the role of Latina/os in the global economy, ethnic identity, social-demographics patterns, social integration, and political implications of the above. Emphasis is placed on social justice.

**SOC 754**  
**Credits 3**  
**Seminar in Population and Equity**  
Seminar in social demography analyzing the influence of population growth and composition in the United States and globally. Variations in mortality, fertility, migration and their influence on social, cultural, political, and economic structures will be examined. Other topics include race/ethnic demographic patterns, population resources, economic development, and the environment.

**SOC 755**  
**Credits 3**  
**Social Movements and Social Change**  
Provides deep, critical understanding of the presumptions, purposes, limitations, and special strengths of sociological theorizing or social movements and social change. Emphasis on
questions about social movements and their historical context and movement formation, organization, careers, participants, ideology and effects.  
Prerequisites: Graduate standing.

SOC 756   Credits 3  
Urban Theory: Culture and Community  
Critical examination and evaluation of sociological theories about urban cultures and communities in light of recent literature, findings, and students’ own observations.  
Prerequisites: SOC 701

SOC 757   Credits 3  
Urban Field Methods  
Training in methods for conducting qualitative research in urban settings. These include participant observation, interviewing, archival narrative analysis, and visual studies. Students will conduct their own research and discuss their emerging findings.  
Prerequisites: SOC 705 and SOC 756

SOC 763   Credits 3  
Symbolic Interaction  
Symbolic interaction from the traditional ideas of Mead to the postmodern versions of interactionism. Approaches derived from phenomenology, existential sociology, labeling, ethnmethodology, dramaturgy, feminist interactionism, and postmodernism covered. Pays particular attention to the self.  
Prerequisites: Graduate standing.

SOC 764   Credits 3  
Seminar in Social Psychology  
Specific topics announced each semester.

SOC 766   Credits 3  
Sociology of Culture  
Broad introduction in field of cultural sociology --its historical development, different theories and methods, definition and analytical problems.  
Prerequisites: Graduate standing.

SOC 767   Credits 3  
Visual Sociology: Image, Media, Culture  
Role of the visual in sociology as well as sociology of the visual. Addresses issues of visual research methods as well as reviewing theories of images, media and culture. Studies interplay between historical and contemporary social aspects of production and consumption of visual culture.  
Prerequisites: Graduate standing.

SOC 768   Credits 3  
Environmental Sociology  
Provides deep, critical understanding of macro-sociological dimensions of environment-society relationship. Emphasis given to sociological approaches to the ideology of environmental domination, capitalist economy and environmental sustainability, rationality and nature, and ecological social movements.  
Prerequisites: Graduate standing.

SOC 769   Credits 3  
Ecology, Culture, Social Psychology  
Explores reciprocal influences between ecology, culture, and social psychological dynamics. Examines relation between landscapes and mindscapes, implications of cultural constructions of nature for interactions with/in the natural environment and routine social psychological dynamics, ecological identity, and contours of an ecocentric perspective.  
Prerequisites: Graduate standing.

SOC 770   Credits 3  
Racial and Ethnic Relations  
Historical and contemporary studies of racial and ethnic relations, both in the US and around the world. Emphasis placed on contemporary theoretical and ethnographic work.

SOC 771   Credits 3  
The Virtual Society  
This course examines the scholarship on the digitalization of society and computer-mediated communication, focusing especially on the psychological, interactional, cultural, and economic impacts of virtualization.  
Prerequisites: SOC 701

SOC 773   Credits 3  
Seminar in Drug Use and Abuse  
Specific topics announced each semester.
Seminar in Feminist Theories and Research
Current issues in feminist theories and research and feminist critiques of social sciences. Discussions of theoretical as well as epistemological and methodological issues. Prerequisites: Consent of instructor and graduate standing.

SOC 775 Credits 3
Seminar in the Sociology of Mental Illness
Specific topics announced each semester.

SOC 776 Credits 3
Seminar in Political Sociology
Explores relations between states and social institutions such as social classes, interest groups, and systems of cultural and material production and reproduction. Covers issues such as theories of the state, political behavior, and frameworks for the development of solutions to various contemporary problems. Prerequisites: Graduate standing.

SOC 777 Credits 3
Seminar in the Sociology of Education
Sociological analysis of the institution of education. Primary attention directed toward class, race, and gender inequalities. Notes: May be repeated to a maximum of six credits. Prerequisites: Consent of instructor.

SOC 779 Credits 3
Seminar in Sociology of Aging
Specific topics announced each semester.

SOC 780 Credits 3
Aging and Social Policy
Current issues in public policy in the sociology of aging. Examines the development of policies regarding aging in specific domains (e.g. labor force, retirement, income security, health care); assesses debates on society’s risks and responsibilities for elders; and considers impact of history, demographic change, place, and heterogeneity of elders on resource allocation and the lives of elders, families, and communities. Prerequisites: Graduate standing.

SOC 785 Credits 3
Seminar in Social Policy and Evaluation Research
Interrelationships of the development of social policy and their requirements for ongoing evaluation as a component part of program development.

SOC 790 Credits 1 – 4
Sociological Internship
Supervised internships in community organizations providing experience in administration, planning, and research. Placements concentrate on the organization and operation of agencies rather than on direct delivery of client services. Notes: May be repeated to a maximum of six credits. One to four credits per semester. Prerequisites: Consent of field experience coordinator.

SOC 791 Credits 1 – 4
Field Experience in Sociology
Supervised internships in community organizations providing experience in administration, planning, and research. Placements concentrate on the organization and operation of agencies rather than on direct delivery of client services. Notes: May be repeated to a maximum of six credits. One to four credits per semester. Prerequisites: Consent of field experience coordinator.

SOC 794 Credits 3
Professional Paper
Research, analysis, writing and editing for students submitting a Professional Paper as the culminating experience in the M.A. program, or for students submitting an article for publication as required in the B.A. to Ph.D. program track. Notes: Only three credits may count toward degree. Prerequisites: SOC 711 or SOC 712, and SOC 704, SOC 705, SOC 724 and consent of graduate coordinator.

SOC 795 Credits 3
Seminar
Specific topics announced each semester. Notes: May be repeated to a maximum of nine credits (contingent on enrollment in different seminar topics).

SOC 796 Credits 1 – 3
Directed Readings
Supervised readings on special topics selected in consultation with a sociology graduate faculty
member. **Notes**: May be repeated to a maximum of six credits. **Prerequisites**: Consent of instructor.

**SOC 797**

**Credits 1 – 3**

**Independent Study**

Consultation course consisting of individual student effort under guidance of instructor. Students assigned to or request assignment to specific problems in sociology on the basis of interest and preparation. **Notes**: May be repeated to a maximum of six credits. **Prerequisites**: Consent of instructor.

**SOC 798**

**Credits 3 or 6**

**Thesis**

**Notes**: May be repeated but only six credits applied to the student's program. **Grading**: S/F grading only.

**SOC 799**

**Credits 1 – 6**

**Dissertation**

Research, analysis, and writing toward completion of the dissertation and preparation for subsequent oral defense. **Notes**: Students are required to complete twelve credits for their doctoral degree; may register for additional credits but they will not count toward degree. **Grading**: S/F grading only. **Prerequisites**: Advancement to candidacy in Sociology Ph.D. program and consent of instructor.
Women's Studies

The Certificate in Women's Studies has been placed in moratorium as the department effects its transition into Interdisciplinary Degree Programs. No students will be accepted into the Certificate Program until further notice.

Program

- Women's Studies Certificate

Women's Studies Certificate

Admission Requirements

The certificate is open to graduate students in any discipline and in any college at UNLV and to non-degree seeking students who hold a baccalaureate degree from an accredited institution with a minimum grade point average of 3.0. In addition to being admitted to the Graduate College each applicant must show:

1. A minimum of nine undergraduate credits in women’s studies, preferably including courses in feminist theory and/or methodology; or (2) demonstrable familiarity with/background in feminist theory and methodology, including a range of courses focusing on women and gender; or (3) completion of two 600-level Women’s Studies or cross-listed courses on women and/or gender.

2. A minimum undergraduate grade point average of 3.00, with a grade point average of at least 3.30 in women’s studies courses.

Application Process

Applicants must complete the Graduate College online application. In addition to the general requirements established by the Graduate College, the following department application materials must be uploaded into the online application:

1. A statement of purpose describing the relationship of the certificate to the student’s intellectual and professional goals. Be detailed and specific. Use this as an opportunity to demonstrate writing as well as analytical skills and knowledge of women’s studies. We expect an essay of 1000 words; notes are optional.

2. Three letters of recommendation, preferably from former instructors or supervisors who can knowledgeably evaluate the student’s ability to do graduate level work in women’s studies.

Certificate Requirements

Candidates who have completed an advanced degree at UNLV prior to completing their certificate can petition the chair of the Women’s Studies department to have their credit-requirement for the certificate reduced to 12, if they have already taken a 3-credit course that would have counted for the certificate while taking their advanced degree, and not counted that course for their advanced degree requirements.

The 15-unit Graduate Certificate consists of:

- WMST 701 - Feminist Theory
- WMST 702 - Principles of Feminist Inquiry and
- WMST 710 - Graduate Capstone Seminar and six units of electives in graduate WMST or departmental courses cross listed with women’s studies, of which at least three units must be at the 700 level.

Candidates for the certificate who are also candidates for a graduate degree may elect no more than three credits in their home discipline. Non-degree candidates may elect no more than three credits in any one department other than Women’s Studies.

WMST 601 Feminist Theories
The following undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

WMST 607  
**Credits 3**
**Communication Between the Sexes**
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

WMST 618  
**Credits 3**
**Language and Gender**
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

WMST 632A  
**Credits 3**
**History of American Women to 1870**
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

WMST 632B  
**Credits 3**
**History of American Women Since 1870**
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

WMST 648  
**Credits 3**
**Gender and Social Interaction**
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

WMST 671  
**Credits 3**
**Sexuality, Literature and the City**
A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

WMST 672  
**Credits 3**
**Controversies in Gender and Race**
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

WMST 673  
**Credits 3**
**Chicana Feminism and Experience**
Examines Chicana/Latina experiences as they intersect with race, class, gender, sexuality, and nation. Examines the work of Chicana/Latina writers, feminists, scholars, performers, artists, filmmakers, and activists. Focuses on issues such as immigration, labor, family, language, education, spirituality, identity, patriarchy, homophobia, and racism.

**Prerequisites:** Graduate standing.

WMST 674  
**Credits 3**
**Gender, Sexuality, and Consumer Culture**
Explores theoretical and empirical approaches to consumer culture, with a focus on gender, sexuality, social class, and consumption. Examines the rise of mass consumerism in American society, and the ways social participation, individual identities, subcultural communities, and political life are shaped through varied acts of consumption.

WMST 675  
**Credits 3**
**Gender, Development, and Globalization**
Examines the relationship between women's position and processes of development and globalization, with a primary focus on Third World women. Considers the interaction of local and global forces in creating change (both positive and negative) and women's perspectives and activism for promoting social equity. **Prerequisites:** Graduate Standing.

WMST 676  
**Credits 3**
**Feminism and Activism**
Presents selected activist movements across the political spectrum. Includes nineteenth century abolitionism, women's rights and twentieth century socialism and feminism. Also examines movements for social change from the right and left.  
**Prerequisites**: Graduate Standing.

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**WMST 677**  
**Credits 3**  
**Critical Race Feminism**  
Examination of feminist theories put forward by women of color. Topics include critical race feminist approaches to race, ethnicity, gender, class, sexuality, language, immigration, and labor.

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**WMST 690**  
**Credits 3**  
**Special Topics**  
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

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**WMST 691A**  
**Credits 3**  
**Women in the Ancient World**  
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

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**WMST 691B**  
**Credits 3**  
**Women in Medieval Culture and Society**  
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

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**WMST 692A**  
**Credits 3**  
**Women in Early Modern Europe**  
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

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**WMST 695**  
**Credits 3**  
**Special Topics in Gender and History**  
This undergraduate course may be used in the graduate program of study with the approval of the advisor. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

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**WMST 700**  
**Credits 3**  
**Introduction to Women's Studies**  
Satisfies the prerequisite for admission to the women's studies graduate certificate program for those applicants who have no prior knowledge of the field, as demonstrated either by undergraduate course work in women's studies or extensive reading of and familiarity with women's studies scholarship.  
**Prerequisites**: Graduate Standing.

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**WMST 701**  
**Credits 3**  
**Feminist Theory**  
Interdisciplinary examination of feminist principles of analysis, applied to gendered social life. Encompasses multicultural and transnational perspectives on the questions: What is feminist theory? What is the relationship between theory and practice? What is the role of theory in political and social activism? What does it mean to “do” theory?  
**Prerequisites**: Admission to Graduate Certificate Program; or completion of two 600-level Women's Studies or crosslisted courses on women and/or gender, or permission of instructor.

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**WMST 702**  
**Credits 3**  
**Principles of Feminist Inquiry**  
Introduction to the theory and application of research methods from critical feminist inquiry approach. Investigates core scholarship of feminist inquiry applied to research methods in the last twenty-five years.  
**Prerequisites**: Admission to Graduate Certificate Program; or completion of two 600-level Women's Studies or cross-listed courses on women and/or gender; or permission of instructor.

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**WMST 703**  
**Credits 3**  
**Feminist Pedagogy**  
Historical development of theory and practice of feminist pedagogy offers opportunity to practice the
art. Students prepared to teach interdisciplinary women's studies courses at postsecondary level. **Prerequisites:** Admission to Graduate Certificate Program; or completion of two 600-level Women's Studies or cross-listed courses on women and/or gender; or permission of instructor.

**WMST 710**  
**Graduate Capstone Seminar**  
Capstone seminar provides opportunity for students to reflect critically on theories and methods of interdisciplinary women's studies scholarship and apply them either to production of knowledge in the arts, humanities, social sciences, or natural sciences or to their practice as psychologists, social workers, nurses, librarians, teachers, and other working professionals. **Prerequisites:** WMST 701 and WMST 702

**WMST 721**  
**Issues in Women's Nutrition**  
Advanced discussion of how nutrition affects physical and mental health of women throughout the life cycle and how to evaluate validity of nutrition research as it relates to the needs of women rather than the general population. **Prerequisites:** Graduate standing.

**WMST 799**  
**Independent Study**  
Independent study of special topics selected in consultation with the chair of women's studies. **Notes:** May be repeated to a maximum of six credits. **Prerequisites:** Consent of chair.
College of Sciences

The natural and mathematical sciences represent the dual cutting edges of our technological future. UNLV’s College of Sciences is dedicated to making this future real, in the creation of new knowledge through research, and in the application of that knowledge in the classroom and in the development of technological advances to benefit society. These are the guiding principles that bring students, faculty, and staff together. Whether in a small discussion session, in a research laboratory or in the field, College of Sciences graduate students are in an environment in which learning, discovery, and innovation are the common goals. Many students choose a graduate institution based on the reputation of an individual faculty scholar or laboratory group. This is often an excellent approach to find the right match between a new graduate student and a mentor. Still, students who come to UNLV’s College of Sciences without a particular graduate project in mind can count on identifying potential major professors who are receptive to a wide array of interests and backgrounds. Through its active programs of research and teaching, the College of Sciences has established a remarkable foundation of state-of-the-art instrumentation and facilities, providing an ever-growing set of opportunities for students who desire the best from their graduate experiences. Students who graduate with a Master’s or doctoral degree from the College of Sciences fulfill their professional goals, and are competitive for career positions in academia, industry, or in governmental or non-governmental organizations.

Timothy L. Porter, Dean
(2010), B.S., California State University, Fresno; M.S., California State University, Fresno; Ph.D., Arizona State University, Tempe.

Javier A. Rodríguez, Associate Dean
(2002), B.S., University of Puerto Rico, Río Piedras; M.S University of Puerto Rico, Río Piedras; Ph.D., University of California, Berkeley.

Science M.A.S.

The Master of Arts in Science (M.A.S.) is a nonthesis degree designed to allow students to increase their knowledge base in two different fields of science. Traditional and nontraditional students interested in pursuing or advancing science-related careers will discover a host of new opportunities after completing the program. Secondary science teachers who enroll in the program will be better prepared to face classroom challenges with a broad science background.

Program Director

Bhatnagar, Satish C.
(1974). Professor; Ph.D., University of Indiana, Bloomington.

This program includes the current graduate faculty, course work and facilities from the departments of Biological Sciences, Chemistry, Geoscience, Mathematical Sciences, and Physics. Any graduate courses offered by these departments can be considered for inclusion in this degree program. In addition, graduate courses from Environmental Studies can be used to satisfy the second field.

Admission Requirements

1. A bachelor’s degree in any of the sciences, mathematical sciences or secondary education with at least nine upper division (300 level or higher) science or math courses. Must be a licensed educator, have current licensure, a current job offer (ideally in grades 6-12) or degree in education
2. A minimum grade point average (GPA) of 3.0 for all undergraduate work (based on a 4.00 scale).
3. Satisfactory scores on the General Graduate Record Examination (GRE). Successful applicants should complete the GRE or pass the Praxis I, II.
4. Three letters of recommendation are required from individuals familiar with the
applicant’s academic and professional record and potential for advanced study in mathematics and science education.

5. A written statement/letter of intent is required and should include:
   a. summary of research interests
   b. reason(s) for wishing to earn an advanced degree
   c. motivation for attending UNLV
   d. name of two intended department faculty mentors for major and minor

6. Submission of official transcripts of all colleges and universities attended.

7. Submission of a completed Graduate College Application and payment of fees required by the Graduate College.

8. Copy of current curriculum vitae or resume is required.

9. Copy of current teaching licensure, licensure certificate, letter of employment or diploma is required.

10. All international students whose first language is not English or who have not received a baccalaureate or Master’s degrees from an institution in which the language of instruction is English must take the TOEFL (Test of English as a Foreign Language) examination, MTEL (Michigan Test of English Placement) or the IELTS (International English Learning Testing System).

Degree Requirements

1. Completion of a total of 33-36 credits of regular course work of which 50% must be at 700 level.

2. At least twelve credits in one major area of one department and at least six credits in one minor field of science, mathematics or statistics from a different department in the College.

3. All students must develop their degree program with the consent of the faculty mentor from their major department and the student's Graduate Advisory Committee.

4. Student's progress will be assessed annually by the Advisory Committee.

5. No more than six credits may come from outside of the College of Sciences. Those departments include: Science, ENB, Educational Psychology, Anthropology, EPP, Water Resource Management, Civil and Environmental Engineering, Electrical Engineering, Computer Science, Mechanical Engineering, CIS, MEE, Informatics. No more than 9 credits may be earned through independent study.

A student will be placed on academic probation if a minimum 3.00 grade point average is not maintained in all work taken in the degree program.

Coursework Option - 36 Credits

1. 9 credits in major (Biology, Chemistry, Physics, Astronomy, Mathematics, Statistics, Geoscience, Water Resource Management)

2. 6 credits in minor (Biology, Chemistry, Physics, Astronomy, Mathematics, Statistics, Geoscience, Water Resource Management)

3. 18 credits at the 700 level

4. 6 credits may be taken outside of the college, student must obtain advisor approval for this coursework Biology, Chemistry, Physics, Astronomy, Mathematics, Statistics, Geoscience, Science, ENB, Educational Psychology, Anthropology, EPP, Water Resource Management, Civil and Environmental Engineering, Electrical Engineering, Computer Science, Mechanical Engineering, CIS, MEE, Informatics.

Professional Paper Option - 33 Credits

1. 9 credits in major (Biology, Chemistry, Physics, Astronomy, Mathematics, Statistics, Geoscience, Water Resource Management)
2. 6 credits in minor (Biology, Chemistry, Physics, Astronomy, Mathematics, Statistics, Geoscience, Water Resource Management)

3. 18 credits at the 700 level

4. 6 credits may be taken outside of the college, student must obtain advisor approval for this coursework Biology, Chemistry, Physics, Astronomy, Mathematics, Statistics, Geoscience, Science, ENB, Educational Psychology, Anthropology, EPP, Water Resource Management, Civil and Environmental Engineering, Electrical Engineering, Computer Science, Mechanical Engineering, CIS, MEE, Informatics.

5. Professional Paper SCI 796: 3 credits
Chemistry

Chair

Lindle, Dennis W.
(1991), Professor; B.S., Indiana University; Ph.D., University of California, Berkeley.

Graduate Coordinator

Hatchett, David W.
(1999), Associate Professor; B.S., California State University, Stanislaus; Ph.D., University of Utah.

Graduate Faculty

Abel-Santos, Ernesto
(2006), Associate Professor; B.S., Autonomous University of Santo Domingo, Dominican Republic; Ph.D., Washington University School of Medicine, St. Louis.

Bae, Chulsung
(2004), Assistant Professor; B.S., Inha University, Korea; M.S., University of Massachusetts, Lowell; Ph.D., University of Southern California.

Bhowmik, Pradip
(1998), Associate Professor; M.S., University of Dhaka, Bangladesh; M.S., University of Massachusetts at Dartmouth; Ph.D., University of Massachusetts at Amherst.

Czerwinski, Kenneth R.
(2003), Associate Professor; B.A., Knox College; Ph.D., University of California, Berkeley.

Gary, Ronald K.
(1999), Associate Professor; B.S., University of California, Irvine; Ph.D., Cornell University.

Heske, Clemens
(2004), Associate Professor; Diploma, TH Darmstadt, Germany; Ph.D., University of Wurzburg, Germany.

Hodge, Vernon F.
(1982), Professor; B.A., M.S., San Diego State University; Ph.D., University of California, San Diego.

Lee, Dong-Chan
(2005), Assistant Professor; B.S., M.S., Kyungpook National University, Korea; Ph.D., University of Massachusetts, Lowell.

Lindle, Dennis W.
(1991), Professor; B.S., Indiana University; Ph.D., University of California, Berkeley.

Naduvalath, Balakrishnan
(2002), Associate Professor; M.S., University of Calicut, India; Ph.D., Indian Institute of Technology, Kanpur.

UnivOrgill, MaryKay
(2003), Assistant Professor; B.S. Brigham Young University; M.S., Ph.D., Purdue University.

Robins, Kathleen A.
(1991), Associate Professor; B.S., University of Illinois, Champaign-Urbana; M.A., Ph.D., University of California, Santa Barbara.

Spangelo, Bryan L.
(1994), Professor; B.S., Keene State College; Ph.D., George Washington University Medical Center.

Steinberg, Spencer
Tirri, Lawrence J.  
(1977), Assistant Professor; B.S., Fairleigh Dickinson University; Ph.D., Fordham University.

Professors Emeriti

Alsop, William M.  
(1964-1991), Emeritus Associate Professor; B.S., M.E., Ph.D., University of Wyoming.

Billingham, Edward J., Jr.  
(1965-1988), Emeritus Professor; B.S., Lebanon Valley College; Ph.D., Pennsylvania State University.

Earl, Boyd  
(1976), Professor; B.S., University of Idaho; M.S., Ph.D., University of California, Berkeley.

Emerson, David W.  
(1981-1998), Emeritus Professor; B.A., Dartmouth College; M.S., Ph.D., University of Michigan.

Grenda, Stanley C.  
(1967), Associate Professor; B.S., DePaul University; M.S., University of Arizona; Ph.D., Lehigh University.

Titus, Richard L.  
(1967-1997), Emeritus Professor; B.A., DePaul University; Ph.D., Michigan State University.

For additional information contact: Kathleen A. Robins (Graduate Coordinator) at (702) 895-3510. Web address: can be accessed through the UNLV home page at http://sciences.unlv.edu/Chemistry/prospgrads.htm

The Chemistry Department offers the Ph.D. in Chemistry or Radiochemistry and the M.S. in Chemistry or Biochemistry. Students may supplement their programs with appropriate courses from other science departments, with the approval of their graduate committee. Research may include projects conducted in the Chemistry Department, the Harry Reid Center, the Desert Research Institute, or the Environmental Protection Agency.

Programs
- Chemistry and Biochemistry M.S.
- Chemistry Ph.D.
- Radiochemistry Ph.D.

Chemistry and Biochemistry M.S.

Admission Requirements
Admission to the program requires an undergraduate degree in chemistry, chemical engineering, biology, biochemistry or a related discipline, with a cumulative GPA of 2.75, or of 3.00 for the last two years of undergraduate work. An application must be submitted to the Graduate College, with official transcripts of all college-level work. Two letters of recommendation from individuals able to assess the applicant’s potential as a graduate student should be sent directly to the department along with an additional set of transcripts. The GRE General Aptitude Test results must be received by the department prior to regular admission. Individuals with apparent deficiencies in their undergraduate background may be required to enroll in selected courses in addition to those listed in the following section to satisfy M.S. degree requirements.

Degree Requirements
1. Required Courses

- A minimum of 30 graduate credits is required, of which 10-13 must be in:
- CHEM 795 - Independent Study
Each student is required to present a departmental seminar on the student’s research prior to graduation. This requirement is in addition to the two credits in CHEM 791. Students are expected to attend weekly departmental seminars.

5. Student’s Examination Committee

Each student is required to meet at least once per semester with the student’s examination committee. At the meeting in the semester prior to the expected term of graduation, the student will be asked to make a detailed presentation on research progress. The committee will then make recommendations to be addressed by the student during the remainder of the student’s research program, in writing the thesis, and in the final examination. The committee may request another meeting prior to the final exam if deemed necessary.

Notes

It is expected that each student be a teaching assistant for a minimum of two courses prior to graduation. It is also expected that each student publish at least one research-based manuscript in a peer-reviewed journal.

Chemistry Ph.D.

Admission Requirements

For preferential consideration, please submit materials for Fall semester admission by February 1, and for Spring semester, by October 1.

1. The applicant is required to submit a completed Graduate College application, application fee and official transcripts to the Graduate College with copies submitted to the department.

2. Admission to the Ph.D. degree program in Chemistry requires a B.S. degree or a M.S. degree in Biochemistry, Chemistry, Biology, or a related discipline.
3. A minimum grade point average (GPA) of 3.00, on a 4.0 scale, for all undergraduate or graduate work is required for admission to the program.

4. In addition, the Graduate College application and official transcripts, the Department of Chemistry requires a statement of interest from the applicant. A letter of application should state interests and goals for graduate study. This is a 1-2 page essay describing the applicant’s reasons for considering graduate study, goals after completion of the graduate degree, and the applicant’s specific areas of interest.

5. The Department of Chemistry requires three letters of recommendation from persons familiar with the academic record of the applicant. Each letter should detail the potential of the applicant for advanced graduate work in Chemistry or Biochemistry.

6. The Department of Chemistry requires scores for GRE, General Record Exam, for admission.

7. The Department of Chemistry requires all international students whose first language is not English or who have not received baccalaureate or master’s degrees from an institution in which the language of instruction is English must pass the TOEFL (Test of English as a Foreign Language) examination. Satisfactory scores for the TOEFL exam are listed in the admissions section of this catalogue.

Degree Requirements

Doctoral students in Chemistry are required to complete a minimum of 60 credit hours beyond the baccalaureate. All 60 credits hours must be completed from courses at the 700-level. For students entering the Ph.D. program with an approved M.S. degree in Chemistry or a closely related discipline, at least 30 credit hours must be completed in the Ph.D. program at UNLV comprised of courses at the 700-level.

The faculty in the division of study will determine if course work from the M.S. degree are comparable to existing 700 level courses offered in the Department of Chemistry. Students will be notified by the department in writing within the first semester of enrollment which courses from their M.S. degree will be accepted toward the requirements for the Ph.D. degree.

Satisfactory progress toward meeting the degree requirements is required of all candidates.

Satisfactory progress is defined as, at a minimum:

1. All students are required to maintain a minimum a 3.00 grade point average in all graduate-level courses. Two grades of B- are permitted in the degree program as long as the GPA remains at or above 3.00. One grade of C+ or lower will result in academic probation even if the overall GPA is above 3.0. Two grades of C+ or lower will result in automatic suspension or separation from the program.

2. A dissertation advisor must be chosen by the end of the first semester, and the Doctoral Advisory Committee must be appointed prior to the end of the second semester. An approved graduate degree program must be filed prior to the beginning of the third semester of enrollment. All students must meet these deadlines; failure to do so will result in academic probation. Failure of a student on academic probation to meet these requirements within the next semester could result in separation from the program. The Doctoral Advisory Committee must consist of the faculty advisor (chair), chemistry graduate faculty in the discipline of study, one additional chemistry graduate faculty member, and one graduate-college representative from outside the department. Failure to identify an advisor and form this committee will result in the student being placed on academic probation. The use of committee members external to UNLV is allowed with approval from the examination committee. External members without
graduate faculty status at UNLV will be non-voting members of the Ph.D. examination committee.

3. All students are required to schedule an interview with the advisor either before or during the first semester of study. If the student does not select an advisor, the Graduate Coordinator will assign a temporary advisor. The purpose of the initial interview is to develop a plan of course work for the first year.

4. All students are required to schedule a diagnostic interview with the Doctoral Advisory Committee before the end of the 2nd semester. The purpose of the interview is to develop a list of recommended courses and design the student’s degree program, which must be submitted prior to completing 16 credits of course work toward the degree.

5. All students must prepare a dissertation proposal for a Proposal Defense Examination. The student will register for CHEM 796 Dissertation Prospectus. This examination must be completed prior to the end of the fourth semester. To remain in good standing students are required to develop and defend a dissertation prospectus no later than the fourth semester of enrollment. If a student does not defend a dissertation prospectus they will be placed on academic probation. The Proposal Defense Examination focuses on the dissertation proposal and the student’s ability to perform the research. It includes a formal oral presentation of the student’s dissertation proposal, research to date, and questions by the dissertation advisory committee on the dissertation topic. The Proposal Defense Examination is to be taken prior to the Comprehensive Examination.

6. Advancement to Candidacy. Students will advance to candidacy if the Comprehensive Examination is passed and the enrolled coursework is successfully completed based on the evaluation of the students Doctoral Advisory Committee. The comprehensive exam will consist of written and oral components as defined by the Ph.D. Examination Committee. Satisfactory performance on the Comprehensive Examination requires that Ph.D. students have a basic knowledge of the discipline of study. It also requires the student to follow the guidelines established for each discipline (i.e., Biochemistry, Physical Chemistry, Analytical Chemistry, Inorganic Chemistry and Organic Chemistry). The student’s Doctoral Advisory Committee or the faculty from the discipline of study will determine the format and content of both the written and oral exams.

7. The Ph.D. Examination Committee will determine if the student passes the Comprehensive Examination. If a student fails any part of the Comprehensive Examination, the Ph.D Examination Committee will determine if the student is allowed to retake the portion of the comprehensive exam that is not passed. Students who fail to pass any part of the Comprehensive Examination or Proposal Defense on the first attempt must successfully complete a second attempt (as specified by the Ph.D. Examination Committee) within the next six months to remain in the program.

Failure to advance to candidacy by the end of the sixth semester of enrollment will result in the student being placed on academic probation. Failure to advance to candidacy by the end of the seventh semester will result in the student being separated from the program.

Students who enter the program with a baccalaureate degree and who fail the second examination may be allowed to continue as a Master of Science student with the consent of the Doctoral Advisory Committee.

Students who entered the program with a master’s degree who fail the examination a second time will be separated from the program.
A student who has successfully passed both the Proposal Defense and Comprehensive Examinations will advance to candidacy for the Ph.D. degree. After advancement, subsequent years of study will be required for the graduate student to complete their degree. The duration of this period will depend on the success of the research project as defined by the Doctoral Advisory Committee.

Completed coursework will only be counted towards the graduation requirements of this program for six years, if the student completed a master’s degree or eight years if the student completed a baccalaureate degree. It is recommended that students publish at least one research-based manuscript in a peer-reviewed journal prior to graduation.

Satisfactory performance on the final examination will consist of the presentation and defense of the dissertation research. The defense will consist of an oral presentation open to the public, a short period of questions from the public, a closed session of questions from the Doctoral Advisory Committee, and a closed deliberation and vote by just the Doctoral Advisory Committee members. Any graduate faculty member may attend the closed session of questions of the defense.

Sample Program of Study
- CHEM 790 - Directed Readings (3-9 units)
- CHEM 791 - Graduate Seminar (5 credits, 3 presentations minimum)
- CHEM 792 - Research Seminar (3-9 units)
- CHEM 793 - Special Topics (3-9 units)
- CHEM 795 - Independent Study (1-3 units)
- CHEM 796 - Dissertation Prospectus (minimum, 1 credit)
- CHEM 797 - Directed Research (minimum, 1 credit)
- CHEM 799 - Dissertation (a minimum of 12 credits)

Radiochemistry Ph.D.

The Radiochemistry Ph.D. Program is a student-driven research intensive program stressing fundamental aspects of radiochemistry science. It was established by the Departments of Health Physics and Chemistry and includes participants from the Harry Reid Center, Nuclear Science and Technology Group. The program is administered by the UNLV Graduate College. The Ph.D. program requires 60 credits of research and courses beyond the baccalaureate degree. Credit is required for four courses in nuclear chemistry, radiochemistry, detectors, and laboratory. The remaining courses are based on the area of interest of the student and include laboratory research. Students are obliged to maintain a B average and show progress in their research.

To advance to candidacy, students are required to pass an oral exam on their research and an outside topic related to radiochemistry. The curriculum and research provides a comprehensive and interdisciplinary examination of topics and experiences necessary to produce graduates who are ready to secure employment and participate in radiochemistry research. An example class schedule for incoming students with a baccalaureate appears below. Representative program for B.A. student entering UNLV radiochemistry program:

**Fall semester – Year 1 - Total Credits: 8**
- RDCH 701 - Nuclear Chemistry
- RDCH 702 - Radiochemistry
- RDCH 750 - Radiochemistry Laboratory Research

**Spring semester – Year 1 - Total Credits: 9**
- HPS 604 Radiation Measurement and Detection (credits: 3)
- HPS 714 Radiation Detection and Radiochemistry Laboratory (credits: 3)
- HPS 750 - Radiation Risk Assessment

**Fall semester – Year 2 - Total Credits: 10**
- RDCH 710 - Actinide Chemistry
- HPS 670 - Environmental Health Physics
- ME 656 - Radioactive Waste Management
- CHEM 791 - Graduate Seminar
Spring semester – Year 2 - Total Credits: 7
- CHEM 655 - Instrumental Analysis
- ME 655 - Fundamentals of Nuclear Engineering
- HPS 791 - Graduate Seminar

Fall semester – Year 3 - Total Credits: 7
- RDCH 799 Doctoral Dissertation
- GEOL 708 - Radiogenic Isotope Geochemistry
- HPS 791 - Graduate Seminar

Spring semester – Year 3 - Total Credits: 6
- CHEM 799 - Dissertation
- CHEM 791 - Graduate Seminar

Fall semester – Year 4 - Total Credits: 7
- CHEM 799 - Dissertation
- CHEM 795 - Independent Study
- CHEM 791 - Graduate Seminar

Spring semester – Year 4 - Total Credits: 6
- CHEM 799 - Dissertation

CHEM 602
Scientific Software for the Microcomputer
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600 level normally requires additional work.

CHEM 621
Physical Chemistry
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600 level normally requires additional work.

CHEM 622

Physical Chemistry II
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600 level normally requires additional work.

CHEM 628
Quantum Chemistry
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600 level normally requires additional work.

CHEM 631
Advanced Inorganic Chemistry
Atomic and nuclear properties. Structure, symmetry, and bonding for molecular and solid-state compounds. Solution behavior, solubility, acid-based properties. Chemistry of the elements and periodic trends. Prerequisites: CHEM 422 or equivalent.

CHEM 655
Instrumental Analysis
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600 level normally requires additional work.

CHEM 672
Biochemistry Laboratory
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600 level normally requires additional work. This course offered by another department may also be taken for graduate credit.

CHEM 678
Endocrinology
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog
under the corresponding 400 number. Notes: Credit at the 600 level normally requires additional work.

CHEM 710 Credits 3
Environmental Aquatic Chemistry
Study of the chemistry of natural waters, emphasizing chemical speciation and the interaction of aqueous media with soil and air. Considerable attention given to the use and limitations of thermodynamic equilibrium models of chemical speciation. Prerequisites: Graduate standing or consent of instructor.

CHEM 715 Credits 3
Environmental Organic Chemistry
Organic chemistry of natural waters, soils and the atmosphere, emphasizing chemical reactions, sorption, bio-concentration and fate and transport. Use and limitation of thermodynamic and kinetic models and the extrapolation of laboratory data to environmental conditions. Prerequisites: Graduate standing in chemistry or consent of instructor.

CHEM 725 Credits 3
Advanced Organic Chemistry
Advanced study of structures and reactions of organic compounds. Reactive intermediates, reaction mechanism, stereochemistry, and synthesis examined. Prerequisites: CHEM 242 and 421.

CHEM 726 Credits 3
Organic Synthesis
Study of the synthesis of complex organic molecules. Stereochemistry, use of organometallic reagents and chiral auxiliaries stressed, with considerable emphasis on current literature. Prerequisites: CHEM 242, 421

CHEM 728 Credits 2
Organic Synthesis Laboratory
Some reasonably challenging syntheses undertaken to include reactions requiring rigid exclusion of air and moisture. Products characterized by modern spectroscopic methods. Notes: Eight hours laboratory per week. Prerequisites: CHEM 242, 421, 447 or consent of instructor.

CHEM 735 Credits 3
Advanced Physical Chemistry
Statistical and quantum mechanics and their use in calculating thermodynamic properties. Prerequisites: CHEM 421 and 428

CHEM 745 Credits 3
Instrumental Analysis-Inorganic
Theory of modern analytical instrumentation as it pertains to inorganic analysis. Notes: May include atomic emission and absorption, x-ray, radioactivity and mass spectroscopic methods.

CHEM 746 Credits 3
Instrumental Analysis-Organic
Theory of modern analytical instrumentation as it pertains to organic analysis. May include gas chromatography-mass spectrometry, supercritical fluid chromatography, nuclear magnetic resonance, Fourier transform infrared methods and fluorescence techniques.

CHEM 749 Credits 3
Polymer Chemistry
Polymer structure; classification of polymerization reactions, step-growth and chain-growth polymerization reactions; condensation, radical, cationic, and anionic polymerization reactions; physical properties and characterization of polymers. Prerequisites: Consent of instructor.

CHEM 750 Credits 3
Quality Assurance and Statistics
Purpose, theory, and applications of quality assurance/quality control. Experimental design including development of sampling protocols. Statistics relating to the evaluation of data quality covered. Notes: Not a theoretical statistics course. Prerequisites: STA 161 and CHEM 455.

CHEM 752 Credits 3
Chromatography
Theory and applications of chromatography as the basis of analytical separations for inorganic and organic analyses. Separating power, selectivity, efficiency, and limitations of the various methods discussed. Prerequisites: CHEM 241, 422, and 455.
CHEM 755  Credits 3
Sample Preparation and Analysis
Collection, preparation, and analysis of gaseous, soil, and water samples using approved standard methods. Techniques used may include gas chromatography, gas chromatography-mass spectroscopy, high performance liquid chromatography-atomic absorption spectroscopy, and inductively coupled plasma atomic emission spectroscopy. Notes: One hour lecture and six hours laboratory. Consult instructor(s) prior to enrollment. Prerequisites: Graduate standing in chemistry.

CHEM 760  Credits 3
Environmental Radiochemistry/Radiation Safety
Practical applications of radiochemistry to topics of current and future concern, such as the temporary and permanent storage of radioactive wastes, nuclear utilities, nuclear medicine and isotope geology. Includes advanced radiochemical techniques and radiation safety training. Prerequisites: CHEM 421 and 422 or equivalent, or consent of instructor.

CHEM 765  Credits 3
Inorganic Chemistry
Physical approach to inorganic compounds, mainly of the transition elements including bonding, stereochemistry, and electronic properties with use of symmetry and elementary group theory. Prerequisites: CHEM 422

CHEM 770  Credits 3
Protein Chemistry
Protein structure and function. Enzymology (kinetics, regulation). Survey of techniques used in protein purification and analysis. Prerequisites: CHEM 475 or equivalent.

CHEM 771  Credits 3
Metabolism and Energetics
Biochemical pathways of carbohydrate, lipid, nucleic acid and amino acid metabolism and the mechanism of mitochondrial ATP synthesis. Prerequisites: CHEM 475

CHEM 772  Credits 3
Nucleic Acid Chemistry
Chemistry and function of nucleic acids (DNA, RNA) and their analogs. Prerequisites: CHEM 475 or equivalent.

CHEM 773  Credits 3
Physical Biochemistry
Theory and practice of physical chemistry as applied to the structure, properties, and interactions of biochemical macromolecules. Includes thermodynamics, various types of spectroscopy, electrophoresis, ligand binding, and hydrodynamic methods (covering the theoretical aspects of diffusion, sedimentation, and viscosity). Prerequisites: CHEM 475

CHEM 775  Credits 3
Bioanalytical Environmental Toxicology
Principles of toxicology. Study of the interaction of toxicants with biochemical pathways. Emphasis on toxic chemicals of environmental interest. Prerequisites: CHEM 475

CHEM 778  Credits 3
Spectral Interpretation
Spectroscopic data obtained from the techniques of nuclear magnetic resonance (NMR), mass spectrometry (MS), infrared (IR) and ultraviolet-visible (UV-VIS) spectrophotometry used to establish structural features of organic molecules. Emphasizes strategies, interpretation, modern techniques, and problem solving. Prerequisites: Consent of instructor.

CHEM 784  Credits 1
Spectral Interpretation Laboratory
Identification and characterization of an organic compound using infrared, ultraviolet, mass, and NMR spectrometers. Proton, carbon-13, and two-dimensional NMR spectra used to fully determine the structure. Corequisite: CHEM 783

CHEM 790  Credits 1
Directed Readings
Directed readings in the primary literature supportive of the dissertation prospectus. Notes: May be
CHEM 791  Credits 1
Graduate Seminar
Attendance and participation in seminar presentations. Includes student presentations. For master's students, enrollment is required. Two presentations are required. Notes: May be repeated for a maximum of five credits. Grading: S/F.
Prerequisites: Graduate standing in Chemistry or Radiochemistry.

CHEM 792  Credits 3
Research Seminar
Public defense of a graduate research project in the Ph.D. Program. Prerequisites: Graduate standing in Chemistry or Radiochemistry.

CHEM 793  Credits 3
Special Topics
Study of a topic of interest from any field of chemistry (for example, analytical chemistry, biochemistry, etc.), at an advanced level. Topic varies each semester. Topic chosen will be published in the class schedule. Notes: May be repeated for credit if classes are in different topics. Prerequisites: Graduate standing in chemistry.

CHEM 795  Credits 1 – 3
Independent Study
Individual directed study of a topic not covered in other courses. Notes: May be repeated once for credit. May be repeated to a maximum of six credits. Prerequisites: Graduate standing in chemistry and consent of instructor.

CHEM 796  Credits 1
Dissertation Prospectus
Development of a prospectus and its defense before the Ph.D. examination committee. Prerequisites: Enrollment in the Chemistry or Radiochemistry doctoral program.

CHEM 797  Credits 1 – 6
Directed Research
Supervised research in the doctoral program. May be repeated for a maximum of twelve credits. Prerequisites: Enrollment in the Chemistry or Radiochemistry doctoral program.

CHEM 798  Credits 3 – 6
Thesis
Notes: May be repeated, but only nine credits applied to the student's program. Grading: S/F grading only. Prerequisites: CHEM 745 or CHEM 746 and consent of instructor.

CHEM 799  Credits 3 – 6
Dissertation
Research, analysis, and writing toward completion of dissertation and subsequent defense. Notes: May be repeated but a minimum of eighteen credits and a maximum of twenty four credits will be applied toward fulfillment of degree requirements. Grading: S/F grading only. Prerequisites: Graduate standing in Chemistry or Radiochemistry and consent of instructor.

RDCH 701  Credits 3
Nuclear Chemistry
Introduces nuclear properties in radiation and radiochemistry. Concepts of the nuclei, radioactive decay, and nuclear reactions examined. Use of quantum mechanics in development of nuclear models and equations. Physics involved in interaction of radiation with matter. Prerequisites: General physics, graduate standing in Radiochemistry program.

RDCH 702  Credits 3
Radiochemistry
Introduces chemical properties in radiation and radiochemistry. Use of stability constants and relationship between speciation, kinetics and thermodynamics. Influence of radiolysis on chemistry of radioisotopes. Radioisotope production and use. Radiochemical separations. Prerequisites: Inorganic chemistry, physical chemistry, graduate standing in Radiochemistry program.

RDCH 710  Credits 3
Actinide Chemistry
Basis for unique chemistry of actinide elements described and related to oxidation-reduction, complexation, orbital interaction, and spectroscopy. Using nuclear properties in understanding actinide chemistry covered. Presentations on exploiting chemical behavior of actinides in separation, nuclear fuel cycle, environmental behavior, and materials. 

**Prerequisites:** RDCH 702, graduate standing in Radiochemistry program.

**RDCH 750**  
**Credits 3**  
**Radiochemistry Laboratory Research**  
Experimental laboratory research conducted by the student under supervision. The student supplies research topic and provides suitable literature and background information. Research plan developed in conjunction with instructor. The student obtains experience in performing radiochemical laboratory research. **Prerequisites:** Undergraduate chemistry laboratory experience, graduate standing in the Radiochemistry program.
Geoscience

Chair

Wells, Michael L.
(1993), Professor; B.S., University of California at Santa Cruz; M.S., Ph.D., Cornell University.

Graduate Coordinator

Simon, Adam
(2005), Associate Professor; B.S., University of Maryland; M.S., Stony Brook University; Ph.D., University of Maryland.

Graduate Faculty

Buck, Brenda
(1998), Associate Professor; B.S., University of Notre Dame; M.S., Ph.D., New Mexico State University.

Burnley, Pamela
(2008), Associate Research Professor; B.S., Brown University; M.S., Ph.D., University of California Davis.

Cline, Jean S.
(1990), Professor; B.S., Wisconsin State University; M.S., University of Arizona; Ph.D., Virginia Polytechnic Institute and State University.

Hanson, Andrew
(2000), Associate Professor; B.S., Montana State University; M.S., San Diego State University; Ph.D., Stanford University.

Hausrath, Elisabeth
(2009), Assistant Professor; B.S., Brown University; Ph.D., Pennsylvania State University.

Jiang, Ganqing
(2004), Associate Professor; B.A., Xiangtan Mining College; M.Sc., China University of Geosciences; Ph.D., Columbia University

Kreamer, David K.
(1990), Professor; B.S., M.S., Ph.D., University of Arizona.

Lachniet, Matthew
(2003), Associate Professor; B.A., Antioch College; M.S., Michigan State University; Ph.D., Syracuse University.

Metcalf, Rodney V.
(1991), Associate Professor; B.S., M.S., University of Kentucky; Ph.D., University of New Mexico.

Nicholl, Michael
(2004), Associate Professor; B.S., Eastern Michigan University; M.S., Ph.D., University of Nevada, Reno.

Nowicki, Scott
(2008), Assistant Professor in Residence; B.S., Augustana College; M.S., Ph.D., Arizona State University.

Ren, Minghua
(2011), Assistant Research Professor; B.S., Nanjing University; M.S. Baylor University; Ph.D., Baylor University.

Rowland, Stephen M.
(1978), Professor; A.B., University of California, Berkeley; Ph.D., University of California, Santa Cruz.

Simon, Adam
(2005), Associate Professor; B.S., University of Maryland, College Park; M.S., Stony Brook University; Ph.D., University of Maryland, College Park.

Smith, Eugene I.
The Department of Geoscience is an active and enthusiastic department consisting of eighteen full-time faculty, approximately sixty graduate students and one hundred undergraduate majors. The department offers a program of courses, seminars and research opportunities leading to Master of Science and Doctor of Philosophy degrees in Geoscience. The interests of the faculty and students cover a wide range of topics. Graduate students can choose one of four Geoscience emphases: Geology, Geophysics, Hydrogeology, and Soil Science. Active research by faculty and students is ongoing throughout the western United States, as well as in Antarctica, Canada, Chile, China, Costa Rica, Indonesia, France, Guatemala, Mexico, New Zealand, Panama, Poland, Russia, South Africa, Spain, and Switzerland. The department encourages interdisciplinary research. Opportunities for geological and interdisciplinary research may be pursued with organizations near, or on, campus that cooperate with the department including: the Harry Reid Center (HRC) for Environmental Studies; the Division of Hydrologic Sciences of the Desert Research Institute (DRI), a division of the University and Community College System of Nevada; the Environmental Monitoring and Support Laboratory of the Environmental Protection Agency (EPA); the Department of Energy; and other university departments and schools such as life sciences, chemistry, physics, and engineering. Students are encouraged to read the general graduate college rules and regulations elsewhere in this catalog and to read the Department of Geoscience Graduate Student Guidelines, which are available on the department’s web site at: http://geoscience.unlv.edu/graduateprogram.htm. An understanding of these documents is essential for satisfactory progress toward the degree.

Admission Requirements for M.S. and Ph.D. Degrees in Geoscience

Admission for any of the four emphases may be in the spring or fall semester. For preferential consideration, please submit materials for fall admission by February 1, and for spring semester, by October 1.

Admission and degree requirements for the Department of Geoscience are listed below. These requirements apply to all of the emphases. Note that each emphasis has requirements in addition to those listed below. Please check the section describing the emphasis of interest to you.

General Admission Requirements

1. A B.S. degree (specific degree requirements are listed under each emphasis description). A master’s degree is recommended, but not
required, for admission to the Ph.D. program.
2. A minimum overall grade point average of 3.00 (on a 4.00 scale).
3. Satisfactory scores on the general Graduate Record Examination (GRE).
4. Three letters of recommendation from individuals competent to comment on the applicant’s promise as a graduate student.
5. A letter of application stating interests and goals for graduate study. This is a 1-2 page essay describing the applicant’s reasons for considering graduate study, goals after completion of the graduate degree, and the applicant’s specific areas of interest.
6. Submission of official copies of academic transcripts.
7. Submission of an application and fees to the Graduate College.
8. All international students whose first language is not English or who have not received baccalaureate or master’s degrees from an institution in which the language of instruction is English must pass the TOEFL (Test of English as a Foreign Language) examination. Satisfactory scores for the TOEFL exam are listed in the Admissions section of this catalogue.

Programs
- Geosciences M.S.
- Geosciences Ph.D.

Geosciences M.S.
Degree Requirements
A minimum of 30 credit hours beyond the undergraduate degree is required for the M.S. degree in Geoscience. Six credits of:
- GEOL 797 - Thesis and 24 credits of course work will be counted toward the degree program, although more course and thesis credits may be taken. Of the 24 required course credits, at least 12 credits must be in 700-level courses and include:
  - GEOL 701 - Research Methods in Geoscience
  - GEOL 795 - Poster Presentation and Time Management.
- GEOL 701 and 795 must be taken during the first year of enrollment. Credits taken at other institutions will be considered for transfer, however, at least 16 of the 24 course credits required for the degree must be taken at UNLV.

Students must confer with their appointed advisor prior to enrollment in their first semester. An approved degree program and thesis prospectus must be filed with the Graduate College, and a thesis committee must be appointed by the end of the second semester after admission to the college. This responsibility rests with the student. Students will be dropped from the program and separated from the Graduate College if they fail to fulfill this requirement.

Satisfactory progress toward meeting the degree requirements is required of all students. Satisfactory progress includes maintaining at least a 3.00 grade point average in all graduate-level courses. Specific grade requirements are slightly different for M.S. students than they are for Ph.D. students: consult the Geoscience Graduate Student Guidelines at http://geoscience.unlv.edu/graduatestudentguidelines.htm for full details.

Geoscience Emphasis M.S. and PhD

Emphasis in Geology
surficial processes, tectonics, and volcanology. Students must satisfy all of the general degree and admission requirements in addition to those listed below.

Admission requirement in addition to those listed
above for the Master of Science and Ph.D. degrees:

1. A bachelor’s degree in geology or equivalent. A Master of Science degree in geology or equivalent is recommended for the Ph.D. applicants, but not required.
2. In order to be admitted without contingencies the student must have completed an introductory geology class and six of the following eight classes (or their equivalents): mineralogy, geochemistry, geomorphology, structural geology, igneous and metamorphic petrology, paleontology, field geology, and sedimentology/stratigraphy.

Emphasis in Geophysics

Admission requirements in addition to those listed above for the Master of Science and Ph.D. degrees:

1. A bachelor’s degree in geology, engineering, physics or mathematics. A Master of Science degree is recommended for Ph.D. applicants, but not required.
2. To be admitted to the program with a Geophysics emphasis, it is recommended that the student have completed the following courses for unconditional admission to the program.

   **Mathematics:** Three semesters of calculus
   **Physics:** Two semesters of introductory (calculus level) physics
   **Geology:** Physical geology, historical geology, mineralogy, structural geology, sedimentology/stratigraphy, and igneous and metamorphic petrology.

Degree requirements in addition to those listed above for the Master of Science and Ph.D. degrees.

Required Graduate Courses

In addition, each student must take at least three courses from the list below. The remaining credits can be obtained from the list below or other Geoscience graduate-level courses that are appropriate for the course of study.

- GEOL 645 - Geophysical Methods
- CEE 636 - Engineering Geophysics
- ECG 780 - Digital Signal Processing
- GEOL 793 - Independent Study and Research

Elective Graduate Courses

- GEOL 630 - Geographic Information Systems (GIS): Theory and Applications
- GEOL 643 - Plate Tectonics
- GEOL 644 - Tectonics of Orogenic Belts
- GEOL 646 - Geologic Applications in Remote Sensing
- GEOL 678 - Hydrogeochemistry
- GEOL 688 - Microtechniques in Geoscience
- GEOL 716 - Geostatistics
- GEOL 744 - Tectonics and Structures
- GEOL 745 - Advanced Structural Geology
- GEOL 746 - Strain and Microstructural Analysis
- GEOL 747 - Geological Evolution of Western North America
- GEOL 770 - Sedimentary Basins
- GEOL 772 - Reflection Seismic Data Interpretation
- GEOL 773 - Seminar in Geophysics
- BIOL 618 - Microbial Ecology
- CEE 634 - Rock Mechanics
- CEE 636 - Engineering Geophysics
- CEE 676 - Earthquake Engineering
- CEE 737 - Soil Dynamics and Earthquake Engineering
- CEE 775 - Seismic Response of Structures

Emphasis in Soil Science

Admission requirements in addition to those listed above for the Master of Science and Ph.D. degrees:

1. A B.S. degree in a Natural Science (or similar field and course work) or B.A. degree in Natural Science (or similar field and course work) with approval of the
graduate coordinator. A Master of Science degree is recommended for Ph.D. applicants, but not required.

2. To be admitted to the program with a Soil Science emphasis, it is recommended that the student have completed two of the following courses for unconditional admission to the program: Mineralogy, Geomorphology, Sedimentology/Stratigraphy, or Geochemistry.

Degree requirements in addition to those listed above for the Master of Science and Ph.D. degrees.

Required Graduate Courses

- GEOL 610 - Soil Classification and Resource Management
- GEOL 786 - Soils Applications: Paleoclimate, Neotectonics, Archeology

Elective Graduate Courses

Remaining credits can be obtained from the list below or other graduate-level courses that are appropriate for the course of study and approved by the student’s committee.

- GEOL 630 - Geographic Information Systems (GIS): Theory and Applications
- GEOL 646 - Geologic Applications in Remote Sensing
- GEOL 712 - Watershed Hydrology
- GEOL 716 - Geostatistics
- GEOL 719 - Vadose Zone Hydrology
- GEOL 735 - Seminar in Environmental Geology
- GEOL 740 - Arid Zone Soils
- GEOL 744 - Tectonics and Structures
- BIOL 745 - Arid Zone Soils
- GEOL 760 - Advanced Spatial Modeling with GIS
- GEOL 770 - Sedimentary Basins
- GEOL 776 - Paleosols Records of Past Landscapes
- GEOL 688 - Microtechniques in Geoscience

- BIOL 618 - Microbial Ecology

Emphasis in Hydrogeology

Admission requirements in addition to those listed above for the Master of Science and Ph.D. degrees:

1. B.S. or master’s degree in geology or a related discipline (e.g., civil engineering). A Master of Science degree is recommended for Ph.D. applicants, but not required.
2. To be admitted to the program with a hydrogeology emphasis, it is required that the student have completed four of the following courses (or their equivalents) for unconditional admission to the program:

GEOL 474 Hydrogeology
GEOL 330 Geochemistry
GEOL 333 Geomorphology
GEOL 341 Structural Geology
GEOL 348 Field Geology
GEOL 462 Stratigraphy and Sedimentology

Degree requirements in addition to those listed above for the Master of Science and Ph.D. degrees.

Elective Graduate Courses

Course credits can be obtained from the list below or other graduate level courses that are appropriate for the course of study and approved by the student’s committee.

- GEOL 630 - Geographic Information Systems (GIS): Theory and Applications
- GEOL 646 - Geologic Applications in Remote Sensing
- GEOL 674 - Hydrogeology
- GEOL 678 - Hydrogeochemistry
- GEOL 709 - Field Methods in Hydrogeology
- GEOL 711 - Principles of Hydrology and Hydraulics
- GEOL 712 - Watershed Hydrology
- GEOL 715 - Advanced Hydrogeology
- GEOL 716 - Geostatistics
- GEOL 719 - Vadose Zone Hydrology


- GEOL 740 - Arid Zone Soils
- GEOL 744 - Tectonics and Structures
- GEOL 760 - Advanced Spatial Modeling with GIS
- GEOL 765 - Seminar in Stratigraphy
- GEOL 785 - Seminar in Sedimentology
- GEOL 792 - Seminar in Hydroscience

Geosciences Ph.D.

Degree Requirements

The doctoral degree requires course work, a proposal defense, an oral qualifying examination, and a written dissertation, which may consist of three or more publishable papers. A minimum of 60 credits past the baccalaureate or bachelor’s degree is required. Students entering the Ph.D. program with an M.S. degree in geology or a related field will be awarded 24 credits toward the Ph.D. Credits taken at another institution will be considered for transfer; however, at least two-thirds of the minimum number of credits required for the degree, not including dissertation credits, must be taken at UNLV.

Course selection is based on the student’s research objectives. The student, the advisor and the doctoral advising committee will design the degree program. All Ph.D. students must take at least 12 credits of:

- GEOL 799 - Dissertation. The 60 credits required of those students entering the program with a B.S. must include at least 24 course credits at the 700 level.

The 36 credits required of those students entering the program with an M.S. degree must include at least 12 course credits at the 700 level. In both cases the 700-level courses must include:

- GEOL 701 - Research Methods in Geoscience; remaining courses may be at the 600 or 700 level.

Although more course work and dissertation credits may be taken, only 12 credits of GEOL 799, and 48 course credits for those entering the program with a B.S. or 24 course credits for those entering the program with an M.S. will be counted toward the degree program.

Doctoral students are encouraged to take courses from outside of geoscience; however, a minimum of 15 credits must be geoscience (GEOL) courses. A maximum of three credits of Independent Study: GEOL 793 - Independent Study and Research are permitted, except in special circumstances in which case permission from the doctoral advising committee, the department Graduate Coordinator and the department chair is required.

A dissertation advisor must be chosen by the end of the first semester, and the doctoral advising committee must be appointed prior to the end of the second semester. An approved graduate degree program must be filed prior to the beginning of the third semester of enrollment. Students may request a maximum of 15 graduate credits taken at UNLV prior to admission be included in the graduate degree program, providing those credits were not used to fulfill undergraduate requirements and a grade of B (3.00) or higher was achieved.

A typical Ph.D. student will spend four years completing the required course work and research, and the department and advisor will strive to provide four academic years of support. During this time, the student must be a teaching assistant or instructor for at least one semester. Satisfactory progress toward meeting the degree requirements is required of all candidates. Satisfactory progress is defined as, at a minimum:

1. Maintenance of at least a 3.00 grade point average in all graduate-level courses. Two grades of B- are permitted in the degree program as long as the GPA remains at or above 3.00. One grade of C+ or lower results in academic probation even if the overall GPA is above 3.0. Two grades of C+ or lower will result in automatic suspension from the program.

2. Selecting a dissertation advisor and committee. The advisor must be selected before the end of the first semester and the
committee before the end of the second semester.

3. Scheduling of an interview with the advisor either during or before the first semester. If an advisor is not selected, a temporary advisor will be assigned by the graduate coordinator. The purpose of the interview is to develop a plan of course work for the first year.

4. Scheduling of a diagnostic interview with the Advisory Committee before the end of the 2nd semester. The purpose of the interview is to develop a list of recommended courses and design the student’s degree program, which must be submitted prior to completing 16 credits of course work toward the degree.

5. Preparation of a dissertation proposal and satisfactory performance on a Proposal Defense Examination. This examination must be completed prior to the end of the third semester. The Proposal Defense Examination focuses on the dissertation proposal and the student’s ability to perform the research. It includes a formal oral presentation of the student’s dissertation proposal, research to date, and questions by the dissertation advisory committee on the dissertation topic. The Proposal Defense Examination is to be taken prior to the Comprehensive Examination.

6. Satisfactory performance on the Comprehensive Examination. Ph.D. students must have a basic knowledge of Physical Geology in addition to a comprehensive knowledge of three fields of geosciences (see Department of Geoscience Graduate Student Guidelines for recommended fields for each Ph.D. Emphasis). The format and content of the exam will be determined by the student’s doctoral advisory committee with approval of the department graduate coordinator. The Comprehensive Examination will be taken either the semester after all course work is completed or before the end of the fifth semester, whichever comes first. The examination will be oral. In exceptional circumstances, as determined by the student’s dissertation committee and the graduate coordinator, the examination will consist of both oral and written components. Students who fail to pass the Comprehensive Examination or Proposal Defense on the first attempt must successfully complete a second examination (as specified by the doctoral advisory committee) within the next six months to remain in the program. Students who entered the program with a baccalaureate degree and who fail the second examination may be allowed to continue as a Master of Science student with the consent of the doctoral advising committee. Students who entered the program with a master’s degree who fail the examination a second time will be separated from the program. A student who has successfully passed both the Proposal Defense and Comprehensive Examinations will be admitted to candidacy for the Ph.D. degree.

7. Satisfactory performance on a final examination will consist of the presentation and defense of the dissertation research. The defense will consist of an oral presentation open to the public, a short period of questions from the public, a closed session of questions from the doctoral advising committee, and a closed deliberation and vote by just the advisory committee members. Any graduate faculty member may attend the closed session of questions of the defense.

Geoscience Emphasis M.S. and PhD

Emphasis in Geology

The emphasis in Geology includes the fields of economic geology, environmental geology, geochemistry, geochronology, geomorphology, igneous petrology, paleontology, metamorphic petrology, Quaternary geology, pedology, sedimentology, stratigraphy, structural geology, surficial processes, tectonics, and volcanology.
Students must satisfy all of the general degree and admission requirements in addition to those listed below.

Admission requirement in addition to those listed above for the Master of Science and Ph.D. degrees:

1. A bachelor’s degree in geology or equivalent. A Master of Science degree in geology or equivalent is recommended for the Ph.D. applicants, but not required.
2. In order to be admitted without contingencies the student must have completed an introductory geology class and six of the following eight classes (or their equivalents): mineralogy, geochemistry, geomorphology, structural geology, igneous and metamorphic petrology, paleontology, field geology, and sedimentology/stratigraphy.

Emphasis in Geophysics

Admission requirements in addition to those listed above for the Master of Science and Ph.D. degrees:

1. A bachelor’s degree in geology, engineering, physics or mathematics. A Master of Science degree is recommended for Ph.D. applicants, but not required.
2. To be admitted to the program with a Geophysics emphasis, it is recommended that the student have completed the following courses for unconditional admission to the program.

Mathematics: Three semesters of calculus
Physics: Two semesters of introductory (calculus level) physics
Geology: Physical geology, historical geology, mineralogy, structural geology, sedimentology/stratigraphy, and igneous and metamorphic petrology.

Degree requirements in addition to those listed above for the Master of Science and Ph.D. degrees.

Required Graduate Courses

In addition, each student must take at least three courses from the list below. The remaining credits can be obtained from the list below or other Geoscience graduate-level courses that are appropriate for the course of study.

- GEOL 645 - Geophysical Methods
- or
- CEE 636 - Engineering Geophysics
- ECG 780 - Digital Signal Processing
- GEOL 793 - Independent Study and Research

Elective Graduate Courses

- GEOL 630 - Geographic Information Systems (GIS): Theory and Applications
- GEOL 643 - Plate Tectonics
- GEOL 644 - Tectonics of Orogenic Belts
- GEOL 646 - Geologic Applications in Remote Sensing
- GEOL 678 - Hydrogeochemistry
- GEOL 688 - Microtechniques in Geoscience
- GEOL 716 - Geostatistics
- GEOL 744 - Tectonics and Structures
- GEOL 745 - Advanced Structural Geology
- GEOL 746 - Strain and Microstructural Analysis
- GEOL 770 - Sedimentary Basins
- GEOL 772 - Reflection Seismic Data Interpretation
- GEOL 773 - Seminar in Geophysics
- BIOL 618 - Microbial Ecology
- CEE 634 - Rock Mechanics
- CEE 636 - Engineering Geophysics
- CEE 676 - Earthquake Engineering
- CEE 737 - Soil Dynamics and Earthquake Engineering
- CEE 775 - Seismic Response of Structures

Emphasis in Soil Science

Admission requirements in addition to those listed above for the Master of Science and Ph.D. degrees:

1. A B.S. degree in a Natural Science (or similar field and course work) or B.A. degree in Natural Science (or similar field and course work) with approval of the graduate coordinator. A Master of Science degree is recommended for Ph.D. applicants, but not required.
2. To be admitted to the program with a Soil Science emphasis, it is recommended that the student have completed two of the following courses for unconditional
admission to the program: Mineralogy, Geomorphology, Sedimentology/Stratigraphy, or Geochemistry.

Degree requirements in addition to those listed above for the Master of Science and Ph.D. degrees.

Required Graduate Courses
- GEOL 610 - Soil Classification and Resource Management
- GEOL 786 - Soils Applications: Paleoclimate, Neotectonics, Archeology

Elective Graduate Courses

Remaining credits can be obtained from the list below or other graduate-level courses that are appropriate for the course of study and approved by the student’s committee.
- GEOL 630 - Geographic Information Systems (GIS): Theory and Applications
- GEOL 646 - Geologic Applications in Remote Sensing
- GEOL 712 - Watershed Hydrology
- GEOL 716 - Geostatistics
- GEOL 719 - Vadose Zone Hydrology
- GEOL 735 - Seminar in Environmental Geology
- GEOL 740 - Arid Zone Soils
- GEOL 744 - Tectonics and Structures
- BIOL 745 - Arid Zone Soils
- GEOL 760 - Advanced Spatial Modeling with GIS
- GEOL 770 - Sedimentary Basins
- GEOL 776 - Paleosols Records of Past Landscapes
- GEOL 688 - Microtechniques in Geoscience
- BIOL 618 - Microbial Ecology

Emphasis in Hydrogeology

Admission requirements in addition to those listed above for the Master of Science and Ph.D. degrees:
1. B.S. or master’s degree in geology or a related discipline (e.g., civil engineering). A Master of Science degree is recommended for Ph.D. applicants, but not required.
2. To be admitted to the program with a hydrogeology emphasis, it is required that the student have completed four of the following courses (or their equivalents) for unconditional admission to the program:
   - GEOL 474 - Hydrogeology
   - GEOL 330 - Geochemistry
   - GEOL 333 - Geomorphology
   - GEOL 341 - Structural Geology
   - GEOL 348 - Field Geology
   - GEOL 462 - Stratigraphy and Sedimentology

Degree requirements in addition to those listed above for the Master of Science and Ph.D. degrees.

Elective Graduate Courses

Course credits can be obtained from the list below or other graduate-level courses that are appropriate for the course of study and approved by the student’s committee.
- GEOL 630 - Geographic Information Systems (GIS): Theory and Applications
- GEOL 646 - Geologic Applications in Remote Sensing
- GEOL 674 - Hydrogeology
- GEOL 678 - Hydrogeochemistry
- GEOL 709 - Field Methods in Hydrogeology
- GEOL 711 - Principles of Hydrology and Hydraulics
- GEOL 712 - Watershed Hydrology
- GEOL 715 - Advanced Hydrogeology
- GEOL 716 - Geostatistics
- GEOL 719 - Vadose Zone Hydrology
- GEOL 740 - Arid Zone Soils
- GEOL 744 - Tectonics and Structures
- GEOL 760 - Advanced Spatial Modeling with GIS
- GEOL 765 - Seminar in Stratigraphy
- GEOL 785 - Seminar in Sedimentology
- GEOL 792 - Seminar in Hydroscience

GEOG 621 Credits 3

Climatology
Physical characteristics of the atmosphere. World climatic classification. Local atmospheric field study.

Prerequisites: GEOG 103 or consent of instructor.

GEOL 610
Soil Classification and Resource Management
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600-level normally requires additional work.

GEOL 620
Introduction to X-ray Diffraction and X-ray Spectrometry Methods
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600-level normally requires additional work.

GEOL 629
Geochemical Thermodynamics and Kinetics
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600-level normally requires additional work.

GEOL 630
Geographic Information Systems (GIS): Theory and Applications
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600-level normally requires additional work.

GEOL 633
Glacial and Periglacial Geology
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600-level normally requires additional work.

GEOL 634
Quaternary Geology
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600-level normally requires additional work.

GEOL 636
Quaternary Palaeoecology
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600-level normally requires additional work.

GEOL 637
Paleoclimatology
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600-level normally requires additional work.

GEOL 640
Volcanology
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600-level normally requires additional work.

GEOL 643
Plate Tectonics
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600-level normally requires additional work.

GEOL 644
Tectonics of Orogenic Belts
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600-level normally requires additional work.

GEOL 645
Geophysical Methods
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600-level normally requires additional work.

**GEOL 645L**
*Geophysical Methods Lab*
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600-level normally requires additional work.

**GEOL 646**
*Geologic Applications in Remote Sensing*
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600-level normally requires additional work.

**GEOL 646L**
*Geologic Applications in Remote Sensing Lab*
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600-level normally requires additional work.

**GEOL 649**
*Geochronology*
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600-level normally requires additional work.

**GEOL 671**
*Petroleum Geology*
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600-level normally requires additional work.

**GEOL 674**
*Hydrogeology*
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600-level normally requires additional work.

**GEOL 677**
*Geology of Metallic Ore Deposits*
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600-level normally requires additional work.

**GEOL 678**
*Hydrogeochemistry*
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600-level normally requires additional work.

**GEOL 685**
*Engineering Geology*
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600-level normally requires additional work.

**GEOL 688**
*Microtechniques in Geoscience*
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600-level normally requires additional work.

**GEOL 701**
*Credits 3*
*Research Methods in Geoscience*
Discussion of the processes of scientific research and research design as applied to modern geoscience. Includes scientific approaches to field and laboratory research, research and professional ethics, writing, and public presentation. Model thesis prospectus and grant proposals prepared. **Notes:** Required weekend
field trips familiarize students with the local geology. **Prerequisites:** Graduate standing or consent of instructor.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL 707</td>
<td>3</td>
<td><strong>Stable Isotope Geochemistry</strong></td>
<td>Investigates stable isotopes in the hydrologic and geologic cycles, and their use as tracers in paleoclimatology, hydrogeology, and oceanography. Theory and research applications of stable isotopes in geologic, biologic, water, and atmospheric samples, including carbon, oxygen, hydrogen, nitrogen, strontium, and sulfur isotopes. <strong>Prerequisites:</strong> Geochemistry.</td>
</tr>
<tr>
<td>GEOL 708</td>
<td>3</td>
<td><strong>Radiogenic Isotope Geochemistry</strong></td>
<td>Principles of radiogenic isotope geochemistry as a monitor of geochemical processes in the mantle, lithosphere and hydrosphere; applications to petrology, tectonics, economic geology, marine geology and paleoclimatology. <strong>Prerequisites:</strong> GEOL 330, GEOL 426, MATH 181 or equivalent, or consent of instructor.</td>
</tr>
<tr>
<td>GEOL 709</td>
<td>3</td>
<td><strong>Field Methods in Hydrogeology</strong></td>
<td>A survey of techniques used to investigate field problems in hydrogeology. Data collection, analysis, and professional presentation of results are emphasized. Topics may include: water balance measures, water table mapping, estimation of hydraulic parameters, and ground-water monitoring. Additional topics suggested by students may also be explored.</td>
</tr>
<tr>
<td>GEOL 710</td>
<td>4</td>
<td><strong>Igneous Petrology</strong></td>
<td>Origin of igneous rocks, relation of magma types to tectonic settings, physical properties of magmas, application of trace elements and isotopes to petrogenesis, modeling of crystal fractionation and partial melting, phase diagrams. <strong>Notes:</strong> Six hours laboratory. <strong>Prerequisites:</strong> GEOL 325 or equivalent or consent of instructor.</td>
</tr>
<tr>
<td>GEOL 711</td>
<td>3</td>
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</table>

**Principles of Hydrology and Hydraulics**

Consideration of modern concepts of hydrology and hydraulics. Includes coverage of statistical methods of analysis, unsteady flow, channel design, modeling and simulation, urban hydrology, and design of hydraulic structures. **Prerequisites:** Consent of instructor.

<table>
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<th>Description</th>
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</tr>
</thead>
<tbody>
<tr>
<td>GEOL 712</td>
<td>3</td>
<td><strong>Watershed Hydrology</strong></td>
<td>Concepts and processes controlling water movement and distribution within the watershed; analysis techniques for understanding watershed dynamics; numerical simulation of various watershed-scale hydrologic processes. <strong>Prerequisites:</strong> Consent of instructor.</td>
</tr>
<tr>
<td>GEOL 713</td>
<td>3</td>
<td><strong>Flow and Transport in Unsaturated Fractured Media</strong></td>
<td>Explores the current state of understanding regarding fluid flow and contaminant transport in unsaturated fractured geologic media (e.g., rock, soil) through review of recent literature. Competing conceptual models are contrasted in light of existing capabilities for numerical simulation at the scale of pertinent applied problems.</td>
</tr>
<tr>
<td>GEOL 715</td>
<td>4</td>
<td><strong>Advanced Hydrogeology</strong></td>
<td>Advanced concepts used in ground water investigations, including flow system analysis, resource evaluation, exploration, development, and monitoring. <strong>Prerequisites:</strong> GEOL 674</td>
</tr>
<tr>
<td>GEOL 716</td>
<td>3</td>
<td><strong>Geostatistics</strong></td>
<td>Analysis of the spatial and temporal variations in geologic, hydrologic and geochemical data, including derived distributions, time series analysis, correlation and spectral analysis, interpolation techniques, cluster analysis and sensitivity and uncertainty techniques. <strong>Prerequisites:</strong> STA 491 or 691 (or equivalent) or consent of instructor.</td>
</tr>
<tr>
<td>GEOL 719</td>
<td>3</td>
<td><strong>Vadose Zone Hydrology</strong></td>
<td></td>
</tr>
</tbody>
</table>
Basic physical properties of soils and water and the physical principles governing the soil-water system. Modeling the transport of moisture and chemicals in unsaturated soil with applications to practical field problems. **Prerequisites:** GEOL 674

**GEOL 720**  
**Advanced Geochemistry**  
Contemporary geochemistry applied to igneous, metamorphic, and sedimentary rocks, economic mineral deposits, and problems of the origin of the Earth and other terrestrial planets. **Notes:** Six hours laboratory. **Prerequisites:** Graduate standing or consent of instructor.

**GEOL 725**  
**Seminar in Petrology**  
Analysis of current problems, concepts, and research in petrology and closely related fields. **Prerequisites:** Graduate standing or consent of instructor.

**GEOL 727**  
**Metamorphic Petrology**  
Application of field studies, petrography, mineralogy, phase equilibria, and isotopic methods to the study of metamorphic rocks and crustal evolution; explores relationships among metamorphism, tectonics and thermal evolution of the crust. **Notes:** Three hours lecture, three hours laboratory. **Prerequisites:** GEOL 429/629 or equivalent and graduate standing, or consent of instructor.

**GEOL 730**  
**Seminar in Quaternary Studies**  
Evaluation of current methodology focused on solving problems of Quaternary chronology, geomorphic processes, and environmental reconstruction. Emphasis on pluvial and post-pluvial environments of the western United States, the evolution of landforms and the development of stratigraphic units and surficial geology originating during the past three million years. **Prerequisites:** Graduate standing or consent of instructor.

**GEOL 735**  
**Seminar in Environmental Geology**  
Application of basic geologic concepts to environmental problems: emphasis on geologic hazards, waste disposal, urban planning, resource policy issues, and environmental programs. **Prerequisites:** GEOL 672 or equivalent or consent of instructor.

**GEOL 740**  
**Arid Zone Soils**  
The role soils have in the soil-plant-atmospheric continuum of arid regions, influence of arid zone soils on all aspects of plant growth and development, influence of soil forming factors on the development of arid soils. **Prerequisites:** Consent of instructor.

**GEOL 742**  
**Seminar in Volcanology**  
Analysis of current problems, concepts, and research in volcanology and closely related fields. **Prerequisites:** Graduate standing or consent of instructor.

**GEOL 743**  
**Seminar in Planetary Geology**  
Analysis of current problems, concepts, and research in planetary geology with emphasis on newly available data. **Prerequisites:** Graduate standing or consent of instructor.

**GEOL 744**  
**Tectonics and Structures**  
Analysis of upper crustal deformation with emphasis on faulting, neotectonics and seismic interpretation; includes a group research project with field and literature data collection, analysis and results suitable for presentation at a professional conference. **Prerequisites:** Consent of instructor.

**GEOL 745**  
**Advanced Structural Geology**  
Analysis of deformation of the Earth's crust with emphasis on deformation mechanisms operative in rocks at different crustal levels; the geometry, kinematics, and dynamics of common geological structural associations, and mechanism and styles of deformation in orogenic belts. **Notes:** Three hours
GEOL 746  Credits 4
Strain and Microstructural Analysis
Examination of the principles and techniques of finite and incremental strain analysis and their application to naturally deformed rocks. Investigation of plastic deformation processes and deformation mechanisms, and recognition and interpretation of microstructures developed during deformation. Notes: Three hours lecture, three hours laboratory. Prerequisites: GEOL 341 or consent of instructor.

GEOL 747  Credits 3
Geological Evolution of Western North America
Study of the geological evolution of western North America. Emphasis on the stratigraphic, structural, and tectonic development of the continent within the framework of plate tectonics. Notes: Three hours lecture per week. Prerequisites: GEOL 223, GEOL 341, GEOL 462.

GEOL 749  Credits 3
Advanced Geochronology and Thermochronology
Detailed discussion of isotopic dating of rocks with application to geologic problems. Diffusion theory and reconstruction of thermal histories of rocks. Includes surface exposure dating using cosmogenic isotopes, study of uranium series disequilibrium, luminescence, electron spin resonance, and 14c dating. Prerequisites: GEOL 426

GEOL 750  Credits 3
Seminar in Paleobiology
Fossil record as a tool for understanding evolutionary processes, early history of life, eruptive radiation, mass extinction, macroevolution, and origin of higher taxa. Prerequisites: Graduate standing in geology or biology or consent of instructor.

GEOL 755  Credits 3
Seminar in Paleontology
Special topics of current interest in paleontology, with emphasis on Great Basin fossil faunas. Prerequisites: Graduate standing in geology or biology or consent of instructor.

GEOL 760  Credits 4
Advanced Spatial Modeling with GIS
Advanced study in computer-based techniques for storage, retrieval, analysis, and representation of spatially referenced data. Emphasis on development of spatially distributed models in the geosciences using Geographic Information System (GIS) technology. Students required to develop system models in their chosen thesis area. Notes: Three hours lecture and three hours lab. Prerequisites: GEOL 430 or GEOL 630.

GEOL 762  Credits 3
Geological Applications of Computers
Use of computer algorithms to solve geological problems, geostatistics, modeling of geological processes. Prerequisites: Graduate standing and CS 116 and 169.

GEOL 765  Credits 3
Seminar in Stratigraphy
Special topics in stratigraphy with emphasis on southern Nevada and adjacent regions. Prerequisites: Graduate standing or consent of instructor.

GEOL 766  Credits 3
Earth Systems Change
Investigate long-term and short-term global climate changes, ocean redox evolution, and their impacts on biospheric innovations. Explore interactions between Earth's sub spheres (lithosphere, hydrosphere, atmosphere, and biosphere) during times of extreme environmental changes in Earth history and testing methods and techniques for such interactions. Prerequisites: Graduate standing or consent of instructor.

GEOL 770  Credits 3
Sedimentary Basins
Analysis of current ideas concerning the plate tectonic setting and evolution of sedimentary basins. Emphasis on characteristic styles of basin sedimentation and resulting stratigraphic framework, provenance of basin fill, chronologic relationship of tectonic events and sedimentation, and methods of
basin analysis. **Prerequisites:** Graduate standing or consent of instructor.

**GEOL 772**

**Credits 4**

**Reflection Seismic Data Interpretation**

Fundamentals of geologic interpretation using seismic reflection data. Introduction to seismic data acquisition and processing. Interpretation techniques include well log to seismicity, contour maps and time-to-depth conversion. Interpretation of data from different structural settings, seismic stratigraphy, and 3-D seismic interpretation. **Notes:** Three hour lecture and three hour lab. **Prerequisites:** Graduate standing or consent of instructor.

**GEOL 772L**

**Credits 0**

**Reflection Seismic Data Interpretation Laboratory**

Lab course designed to supplement the lecture course. Interpretations of several structural regimes, structure contour maps, correlation using well logs, creation of synthetics, and the interpretation of a 3-D seismic data set. **Prerequisites:** Graduate standing or consent of instructor.

**GEOL 773**

**Credits 1 – 3**

**Seminar in Geophysics**

Specialized topics in geophysics with an emphasis on current analysis techniques and problems. **Prerequisites:** Graduate standing or consent of instructor.

**GEOL 775**

**Credits 3**

**Seminar in Economic Geology**

Analysis of current problems, concepts and research in economic geology and closely related fields. **Prerequisites:** GEOL 677 or equivalent or consent of instructor.

**GEOL 776**

**Credits 3**

**Paleosols Records of Past Landscapes**

Recognition and analysis of soil horizons preserved in the rock record. Use of paleosols for reconstructing palaeoclimates, tectonics, depositional environments, and other aspects of geologic history. **Prerequisites:** Graduate standing and GEOL 462 (or equivalent) or consent of instructor.

**GEOL 777**

**Credits 3**

**Instrumental Techniques in Geology**

Use of modern instrumentation to acquire geological and geochemical data. Includes, but not limited to, the practical application of x-ray diffraction and fluorescence and atomic absorption spectrophotometry. **Notes:** Six hours laboratory. **Prerequisites:** Graduate standing or consent of instructor.

**GEOL 779**

**Credits 3**

**Theory of Ore Deposition**

Study of physical and chemical processes which contribute to metal solubility, transport, and precipitation. Includes fundamental geochemical and thermodynamic concepts as they apply to ore and gangue mineral stability under various geologic conditions. **Prerequisites:** GEOL 426 and GEOL 477.

**GEOL 780**

**Credits 3**

**Terrigenous Depositional Systems**

Examination of modern nonmarine and marine depositional environments dominated by terrigenous sediments, processes that operate in these settings, and responses of sediment to processes. Establish criteria for recognizing these environments and processes in ancient terrigenous sequences. **Prerequisites:** Graduate standing and GEOL 462 or consent of instructor.

**GEOL 781**

**Credits 3**

**Carbonate Depositional Systems**

Examination of modern non-marine and marine depositional environments dominated by carbonate sediments, organisms that produce sediments, processes that operate in these settings, and responses of sediment to the processes. Establish criteria for recognizing these environments and processes in ancient carbonate sequences. **Prerequisites:** Graduate standing and GEOL 462 or consent of instructor.

**GEOL 782**

**Credits 4**

**Sandstone Petrology**
Description, classification, and interpretation of terrigenous sedimentary rocks. Emphasis on petrographic methods applied to sandstones and interpretation of provenance of sedimentary sequences. **Prerequisites:** GEOL 780 (corequisite) or consent of instructor.

**GEOL 783**  
**Credits 4**  
**Carbonate Petrology**  
Study of the physical and chemical factors important in the genesis and diagenesis of carbonate sediments and rocks. Various analytical techniques covered, with emphasis on thin section petrography for deciphering rock components and diagenesis. **Prerequisites:** GEOL 781 (corequisite) or consent of instructor.

**GEOL 785**  
**Credits 1 – 4**  
**Seminar in Sedimentology**  
Analysis of current problems, concepts, and research in sedimentary geology and related fields. Emphasis may be upon the genesis and diagenesis of specific sedimentary sequences or upon particular depositional or diagenetic environments. **Prerequisites:** Graduate standing and either GEOL 780 or GEOL 781, or consent of instructor.

**Dissertation Research**  
Supervised research prior to advancement to candidacy in the doctoral program. **Notes:** May be repeated, but only two credits can be applied to the student's program. **Grading:** S/F grading only. **Prerequisites:** Enrollment in the doctoral program.

**GEOL 782**  
**Credits 1 – 3**  
**Seminar in Hydroscience**  
Specialized topics in hydroscience.

**GEOL 792**  
**Credits 1 – 3**  
**Independent Study and Research**  
Independent study and research projects in some field of geology. Proposed project for study must be submitted in writing to the graduate program coordinator and the department chair for approval and credit evaluation at least two weeks prior to registration. **Notes:** May be repeated for credit, but only three credits are permitted per instructor unless special permission is received. **Prerequisites:** Consent of instructor.

**GEOL 786**  
**Credits 3**  
**Soils Applications: Paleoclimate, Neotectonics, Archeology**  
Special topics of current interest in soil science with emphasis on the use of soils for applications in geomorphology, paleoclimate, neotectonics, and/or archeology. **Prerequisites:** Graduate standing in geology, biology, anthropology, or consent of instructor.

**GEOL 787**  
**Credits 1 – 6**  
**Thesis Research**  
Supervised research prior to approval of master's program prospectus. **Notes:** May be repeated to a maximum of six credits, but only one credit can be applied to the student's program. **Grading:** S/F grading only. **Prerequisites:** Enrollment in the M.S. Program.

**GEOL 789**  
**Credits 1 – 6**  
**Dissertation Research**  
Supervised research prior to advancement to candidacy in the doctoral program. **Notes:** May be repeated, but only two credits can be applied to the student's program. **Grading:** S/F grading only. **Prerequisites:** Enrollment in the doctoral program.

**GEOL 793**  
**Credits 1 – 3**  
**Directed Readings**  
Supervised readings on special topics in consultation with a geoscience graduate faculty member. **Notes:** May be repeated to a maximum of six credits. Requires consent of student's academic adviser. **Grading:** S/F grading only. **Prerequisites:** Admission to Geoscience Ph.D. program; Consent of instructor.

**GEOL 794**  
**Credits 1 – 3**  
**Poster Presentation and Time Management**  
Presentation of geological information in poster format and time management skills. Poster presentation includes layout and design, focus, data versus interpretation, computer graphics, verbal presentation and referencing. Time management issues include scheduling, planning, organization, and productivity. **Notes:** Should be taken during first or second semester of graduate program. **Prerequisites:** Graduate standing in Geoscience.

**GEOL 796**  
**Credits 1 – 3**
Advanced Topics in Geoscience
Variety of advanced studies of current and/or topical interest in specialized areas of geoscience. **Notes:**
May be repeated to a maximum of six credits.
**Prerequisites:** Varies, depending upon the specific topic.

**GEOL 797**
**Credits 1 – 6**
**Thesis**
**Notes:** May be repeated, but only six credits applied to the student's program. **Grading:** S/F grading only. 
**Prerequisites:** Graduate standing and consent of instructor.

**GEOL 799**
**Credits 3 – 6**
**Dissertation**
Research analysis and writing toward completion of dissertation and subsequent defense. **Notes:** Twelve credits are required for the degree, may be repeated, but only twelve credits will be applied to the student's degree program. May be repeated but only a maximum of 12 credits may be used in students degree program. **Grading:** S/F grade. **Prerequisites:** Successful completion of qualifying examination and approval by department.
School of Life Sciences

Director

Bazylinski, Dennis A.
(2006), Professor; Ph.D., University of New Hampshire, Durham.

Graduate Coordinator

Andres, Andrew J.
(2002), Associate Professor; Ph.D., Indiana University, Bloomington.

Graduate Faculty

de Belle, J. Steven
(1997), Associate Professor; Ph.D., York University, Toronto, Canada.

Devitt, Dale A.
(2005), Professor; Ph.D., University of California, Riverside.

Elekonich, Michelle M.
(2003), Associate Professor; Ph.D., University of Washington, Seattle.

Gibbs, Allen G.
(2005), Associate Professor; University of California, San Diego.

Hedlund, Brian P.
(2003), Associate Professor; Ph.D., University of Washington, Seattle.

Lee, David V.
(2007), Assistant Professor; Ph.D., University of Utah.

Meacham, Susan L.
(1998), Associate Professor; Virginia Polytechnic and State University, Blacksburg.

Reiber, Carl L.
(1993), Professor; Ph.D., University of Massachusetts, Amherst.

Riddle, Brett R.
(1990), Professor; Ph.D., University of New Mexico, Albuquerque.

Robleto, Eduardo A.
(2002), Associate Professor; Ph.D., University of Wisconsin, Madison.

Rodriguez-Robles, Javier A.
(2002), Associate Professor; University of California, Berkeley.

Schulte, Paul J.
(1990), Associate Professor; Ph.D., University of Washington, Seattle.

Shen, Jeffery Q.
(2000), Associate Professor; Ph.D., Washington University, St. Louis.

Smith, Stanley D.
(1985), Professor; Ph.D., Arizona State University, Tempe.

Stark, Lloyd R.
(1999), Associate Professor; Ph.D., Pennsylvania State University, University Park.

Starkweather, Peter L.
(1978), Professor; Dartmouth College, Hanover, New Hampshire.

Thompson, Daniel B.
(1990), Associate Professor; Ph.D., University of Arizona, Tucson.

van Breukelen, Frank
(2002), Associate Professor; Ph.D., University of Colorado, Boulder.

Walker, Lawrence R.
(1992), Professor; Ph.D., University of Alaska, Fairbanks.
Wing, Helen J.  
(2005), Assistant Professor; Ph.D., University of Birmingham, Edgbaston, United Kingdom.

**Professors Emeriti**

Babero, Bert B.  
(1965-1987), Emeritus Professor; Ph.D., University of Illinois.

Deacon, James E.  
(1960-2002), Emeritus Distinguished Professor; Ph.D., University of Kansas, Lawrence.

Murvosh, Chad M.  
(1964-1992), Emeritus Professor; Ph.D., Ohio State University, Columbus.

Niles, Wesley E.  
(1968-2002), Emeritus Professor; Ph.D., University of Arizona, Tucson.

Yousef, Mohamed K.  
(1968-1994), Emeritus Distinguished Professor; Ph.D., University of Missouri.

The School of Life Sciences (SoLS) offers programs of studies leading to the Master of Science and Doctor of Philosophy degrees. Each degree requires a research thesis (M.S.) or dissertation (Ph.D.). Research leading to the M.S. and Ph.D. degrees may be conducted in one or more of the following fields: cellular and molecular biology; genetics; microbiology; physiology; population, community, and ecosystem ecology; evolutionary biology; systematics; and biogeography. The School has well-equipped laboratories to support faculty and graduate student research. These facilities are enhanced through access to a number of specialized scientific resources, including the Nevada Genomics Center and SoLS DNA Sequencing Facility (which house state-of-the-art equipment that includes an RTPCR machine, an Amersham Typhoon imager, a microarray printer, hybridization capacity and scanner, and a DNA capillary sequencer); the Nevada Center for Biological Imaging (which houses a Zeiss LSM-510 confocal laser scanning microscopy system mounted on either upright or inverted Zeiss microscope bodies); the Ecophysiological Research facility (which includes a greenhouse designed to support experiments at elevated levels of carbon dioxide); an AAALAC-accredited animal care facility; and regional natural history collections, including those of the Wesley E. Niles Herbarium and the Marjorie Barrick Museum. Investigators from the Nevada System of Higher Education’s Desert Research Institute also contribute to our graduate program. Numerous funding opportunities are available through state-funded graduate assistant programs via statewide initiatives or in association with individual faculty research programs. Prospective students should make contact with one or more faculty members to familiarize themselves with their current research interests, opportunities for conducting research projects, and funding availability. A list of faculty research interests and admission materials are available on-line at the School’s web site.

**Admission Requirements to the M.S. and Ph.D. Programs in the School of Life Sciences**

1. A baccalaureate (B.S., B.A.) degree in biological sciences or its equivalent.
2. A minimum grade point average (GPA) of 3.00 (on a 4.00 scale) for all undergraduate work.
3. Satisfactory scores on the General Graduate Record Examination (GRE). Successful applicants to the program generally have scores among the upper 50th percentile of examinees taking the GRE.
4. Letters of recommendation (two letters for the M.S. Program; three letters for the Ph.D. Program) from individuals familiar with the applicant’s academic record and potential for advanced study in the biological sciences.
5. A written statement that includes:
   a. summary of research interests
   b. reason(s) for wishing to earn an advanced degree
   c. motivation for attending UNLV
   d. possible faculty mentors
6. Submission of official transcripts of all colleges and universities attended.
7. Submission of a completed application form and payment of fees required by the Graduate College.
8. All international students whose first language is not English or who have not received baccalaureate or Master’s degrees from an institution in which the language of instruction is English must take the TOEFL (Test of English as a Foreign Language) examination.

For details regarding application deadlines and the application review process, see the School of Life Sciences’ Graduate Student Handbook, which is available at http://sols.unlv.edu/gradhandbook.html.

Programs

- Biological Sciences M.S.
- Biological Sciences Ph.D.

Biological Sciences M.S.

Degree Requirements

Specific degree requirements, including those listed below, are described in detail in the School of Life Sciences’ on-line Graduate Student Handbook http://sols.unlv.edu/gradhandbook.html.

1. Master’s students are required to complete a minimum of 30 credit hours beyond their undergraduate degree. At least 18 of these hours must be completed at the 700-level. All students must take:
   BIOL 701 - Ethics in Scientific Research, preferably during their first year in residence. All students must also take six (6) credits of:
   BIOL 796 A-D - Graduate Seminar and at least six (6) credits of:
   BIOL 797 - Thesis during their residency in the Program.
2. In addition to the aforementioned general requirements, students must complete the specific course work required by the Section (e.g., Ecology and Evolutionary Biology, Cell and Molecular Biology, Microbiology, and Integrative Physiology) to which they belong. See SoLS’s Graduate Student Handbook http://sols.unlv.edu/gradhandbook.html for specific requirements.
3. Students may request a maximum of 15 graduate credits taken at UNLV prior to admission into SoLS’s Graduate Program to be counted towards the 30 credit hour minimum graduation requirement, provided that those credits were not used to fulfill undergraduate requirements and that a minimum grade of “B” (3.00) was earned in each course.
4. At least 50 percent of the total credits required to complete the Master’s degree must be earned at UNLV after admission into the Graduate Program.
5. Students should register for at least nine (9) credits each semester if they are receiving financial support from SoLS; otherwise they must register for at least six (6) credits each semester. Students working on their thesis must register for at least three (3) credits each semester (excluding summer) until the Master’s Thesis is completed and given final approval.
6. Students must confer with their Thesis Advisor prior to enrollment in their first semester. The Advisor will assist with designing an initial graduate degree program (i.e., an outline of the courses that the student will complete for the degree), engage in discussions about possible research directions, and introduce the student to the personnel and resources of the School of Life Sciences.
7. Students must form an Advisory Committee before the end of their first semester in the Graduate Program. This Committee will be composed by the Thesis Advisor (who will serve as the Committee Chair), two members of SoLS’s Graduate Faculty, and a Graduate Faculty Representative from UNLV (but outside of SoLS).

8. Students must meet with their Advisory Committee at least once every year (i.e., from January to October), and a written report of this meeting must be submitted to SoLS’s Graduate Operations Committee by November 1.

9. The Advisory Committee will review the student’s past academic background and, taking into consideration the student’s research interests, determine his/her definitive graduate degree program.

10. Students must comply with the deadlines indicated in SoLS’s Graduate Student Handbook http://sols.unlv.edu/gradhandbook.html for submitting required paperwork to the Graduate College.

11. A student will be placed on academic probation if a minimum 3.00 grade point average is not maintained in all work taken as part of the graduate degree program. A grade of “C” or less in two graduate-level classes will cause a student to be placed on academic probation.

12. The M.S. candidate will present a seminar on his/her thesis work that is open to all interested parties, including the general public. This public seminar will be widely advertised at least seven (7) days before it takes place, and will be followed by an oral defense of the thesis research before the Advisory Committee and any other Graduate Faculty member who wishes to attend.

13. Students are expected to complete all the requirements for the Master’s degree in 2-3 years. Master’s students may be withdrawn from the Program and separated from the Graduate College if they fail to fulfill any of the requirements for the degree within the specified timeline. See SoLS’s Graduate Student Handbook http://sols.unlv.edu/gradhandbook.html for specific requirements.

Biological Sciences Ph.D.

Degree Requirements

Specific degree requirements, including those listed below, are described in detail in the School of Life Sciences’ on-line Graduate Student Handbook http://sols.unlv.edu/current.html.

1. Doctoral students are required to complete a minimum of 60 credit hours beyond their undergraduate degree, unless they are entering the program with a master’s degree from another institution (see below). At least 36 of these hours (18 for a student with an awarded M.S. degree) must be completed at the 700-level. All students are expected to take:
   - BIOL 701 - Ethics in Scientific Research, preferably during their first year in residence. All students must also take at least six (6) credits of:
   - BIOL 796 A-D - Graduate Seminar and at least twelve (12) credits of:
   - BIOL 799 - Dissertation during their residency in the Program. BIOL 799 may be repeated for credit as needed, but only 18 credits may be counted towards the 60 credit hour minimum graduation requirement.

2. In addition to the aforementioned general requirements, students must complete the specific course work required by the Section (e.g., Ecology and Evolutionary Biology, Cell and Molecular Biology, Microbiology, and Integrative Physiology) to which they belong. See SoLS’s Graduate Student Handbook http://sols.unlv.edu/current.html for specific requirements.
3. Students may request a maximum of 15 graduate credits taken at UNLV prior to admission into SoLS’s Graduate Program to be counted towards the 30 credit hour minimum graduation requirement, provided that those credits were not used to fulfill undergraduate requirements and that a minimum grade of “B” (3.00) was earned in each course.

4. Students entering the Doctoral Program with an M.S. degree from another institution must complete at least 30 credit hours at UNLV. The reduction from the 60-credit minimum will only occur if course work completed for the M.S. degree is relevant to the student’s doctoral degree, and as such the completed work must be unanimously approved by the student’s research advisory committee for the reduction to be granted. No Thesis or Dissertation units can be applied toward the reduction of the 60-credit minimum.

5. Students should register for at least nine (9) credits each semester if they are receiving financial support from the School; otherwise they must register for at least six (6) credits each semester. Students working on their dissertation must register for at least three (3) credits each semester (excluding summer) until the Dissertation is completed and given final approval.

6. Students must confer with their Dissertation Advisor prior to enrollment in their first semester. The Advisor will assist with designing an initial graduate degree program (i.e., an outline of the courses that the student will complete for the degree), engage in discussions about possible research directions, and introduce the student to the personnel and resources of the School of Life Sciences.

7. The student must form an Advisory Committee before the end of his/her first semester in the Graduate Program. This Committee will be composed by the Dissertation Advisor (who will serve as the Committee Chair), two members of SoLS’s Graduate Faculty, and a Graduate Faculty Representative from UNLV (outside of SoLS). Students are encouraged to include a fifth Committee member who is an expert on the student’s field of research. This fifth Committee member can have an academic affiliation outside of UNLV.

8. Students must meet with their Advisory Committee at least once every year (i.e., from January to October), and a written report of this meeting must be submitted to SoLS’s Graduate Operations Committee by November 1.

9. The Advisory Committee will review the student’s past academic background and, taking into consideration the student’s research interests, determine his/her definitive graduate degree program.

10. Students must comply with the deadlines indicated in SoLS’s Graduate Student Handbook http://sols.unlv.edu/current.html for submitting required paperwork to the Graduate College.

11. Students must take the comprehensive examination before the end of their fifth semester of residency in the Graduate Program. The exam must be held at least three (3) weeks before the last day of instruction of any given term. The exam will include both a written and an oral component, and will assess whether the student has reached the appropriate level of knowledge and analytical skills necessary for his/her field of study. The examination is developed or administered by the Doctoral Advisory Committee or an ad hoc Committee composed of Graduate Faculty within the Section to which the student belongs. See SoLS’s Graduate Student Handbook http://sols.unlv.edu/current.html for information on the possible outcomes of the exam. Students who fail to pass the exam within the specified timeline will be withdrawn from the Program and separated from the Graduate College.

12. Doctoral students are advanced to candidacy after passing their comprehensive examination and successfully completing a
minimum of 36 credits required by the Section to which they belong. Specific curricular requirements for each SoLS Section are described in detail in SoLS’s Graduate Student Handbook http://sols.unlv.edu/current.html.

13. Each doctoral student should teach for a minimum of two semesters in the undergraduate curriculum of the School of Life Sciences. During that time the student will receive a Graduate Teaching Assistantship.

14. A student will be placed on academic probation if a minimum 3.00 grade point average is not maintained in all work taken as part of the graduate degree program. A grade of “C” or less in two graduate-level classes will cause a student to be placed on academic probation.

15. The Ph.D. candidate will present a seminar on his/her dissertation work that is open to all interested parties, including the general public. This public seminar will be widely advertised at least seven (7) days before it takes place, and will be followed by an oral defense of the dissertation research before the Advisory Committee and any other Graduate Faculty member who wishes to attend.

16. Students are expected to complete all the requirements for the Ph.D. degree in 5-6 years.

Doctoral students may be withdrawn from the Program and separated from the Graduate College if they fail to fulfill any of the requirements for their degree within the specified timeline. See SoLS’s Graduate Student Handbook http://sols.unlv.edu/current.html for specific requirements.

BIOL 604
Principles of Neurobiology
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600 level normally requires additional work.

BIOL 607
Molecular Biology
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600 level normally requires additional work.

BIOL 609
Virology
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600 level normally requires additional work.

BIOL 611
Molecular Evolution
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600 level normally requires additional work.

BIOL 618
Microbial Ecology
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600 level normally requires additional work.

BIOL 622
Taxonomy of Vascular Plants
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600 level normally requires additional work.

BIOL 625
Genomics
Graduate credit may be obtained for courses designated 600 or above. A full description of this
course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600 level normally requires additional work.

**BIOL 626**  
**Plant Anatomy**  
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600 level normally requires additional work.

**BIOL 631**  
**Ichthyology**  
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600 level normally requires additional work.

**BIOL 632**  
**Herpetology**  
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600 level normally requires additional work.

**BIOL 633**  
**Ornithology**  
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600 level normally requires additional work.

**BIOL 634**  
**Mammalogy**  
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600 level normally requires additional work.

**BIOL 638**  
**Soil Plant Water Relations in Arid Environments**  
The class will cover soil plant water relationships relevant to arid environments under limited water resources. Topics that will be discussed in detail include: the hydrologic cycle, water properties, soil physical and chemical properties, environmental demand, plant stress associated with drought and salinity, water quality and irrigation management as it relates to plant growth and productivity. The class will be taught in a lecture/lab format. **Prerequisites:** CHEM 121, CHEM 122, and BIOL 197 or equivalents.

**BIOL 641**  
**Field Ecology**  
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600 level normally requires additional work.

**BIOL 642**  
**Principles of Plant Physiology**  
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600 level normally requires additional work.

**BIOL 644**  
**Principles of Plant Ecology**  
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600 level normally requires additional work.

**BIOL 645**  
**Cell Physiology**  
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600 level normally requires additional work. **Prerequisites:** Consent of instructor.

**BIOL 647**  
**Comparative Animal Physiology**
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600 level normally requires additional work.

**BIOL 648**
Endocrinology
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600 level normally requires additional work.

**BIOL 651**
Comparative Vertebrate Anatomy Laboratory
The companion laboratory course of BIOL 655. Hands-on dissection of specimens representing major vertebrate groups. Numerous demonstration specimens sample the diversity of fishes, amphibians, and amniotes. Review of fossil vertebrates with emphasis on phylogenetic relationships. Prerequisites: Biology degree or consent of instructor. Corequisite: BIOL 655

**BIOL 653**
Immunology
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600 level normally requires additional work.

**BIOL 655**
Comparative Vertebrate Anatomy and Biomechanics
Examines structure-function relationships in the context of vertebrate evolution. Tissues and structures of the integumentary, skeletal, and muscular system are emphasized. Biomechanics of materials, structures, and movements are related to adaptations of vertebrates to life in their physical worlds. Prerequisites: Biology degree or consent of instructor. Corequisite: BIOL 651

**BIOL 660**
Microbial Physiology

Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600 level normally requires additional work.

**BIOL 664**
Credits 3
Bacterial Pathogenesis
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600 level normally requires additional work. Prerequisites: BIOL 351 or equivalent microbiology class.

**BIOL 665**
Vertebrate Embryology
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600 level normally requires additional work.

**BIOL 668**
Histology
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600 level normally requires additional work.

**BIOL 670**
Topics in Applied Microbiology
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600 level normally requires additional work.

**BIOL 671**
Aquatic Ecology
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600 level normally requires additional work.
BIOL 672  
**Limnology**  
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600 level normally requires additional work.

BIOL 680  
**Introduction to Biological Modeling**  
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600 level normally requires additional work.

BIOL 685  
**Microbial Genetics**  
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600 level normally requires additional work.

BIOL 687  
**Principles of Systematics**  
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600 level normally requires additional work.

BIOL 689  
**Developmental Genetics**  
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600 level normally requires additional work.

BIOL 690  
**Biogeography**  
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600 level normally requires additional work.

BIOL 701  
**Credits 1**  
**Ethics in Scientific Research**  
Examination of ethical problems in scientific research, including the falsification and manipulation of data, public access and peer review, and decisions concerning research problems and support.  
**Prerequisites:** Graduate standing.

BIOL 703  
**Credits 3**  
**Biochemical Genetics**  
**Prerequisites:** BIO 300 and CHEM 471.

BIOL 705  
**Credits 1 – 3**  
**Secondary Education: Teaching Evolution and the Nature of Science**  
Focus on Science and Creationism and hands-on activities and inquiry-based computer simulations that can be used in classrooms to illustrate evolutionary principles. Workshop taught using scientific methods so educators are well-versed in methods of evolutionary study and principles. **Notes:** Follow up sessions explore implementations of lessons from workshop.

BIOL 711  
**Credits 3**  
**Advanced Eukaryotic Genetics**  
Focuses on the biology and genetics of common model organisms: C. elegans, Drosophila, Arabidopsis, Zebrafish, and mouse, and their relationship to the biology of human health and agriculture. The goal is help students understand current research topics in functional genetics and genome manipulation. **Prerequisites:** Consent of instructor.

BIOL 714  
**Credits 3**  
**Population Genetics**  
Examines the interactions of evolutionary processes, such as natural selection, genetic drift, gene flow, and mutation, and effects of these interactions on
population differentiation, speciation, and extinction. Theoretical and empirical approaches to the study of DNA substitutions and quantitative genetic change addressed. Prerequisites: MATH 181 and BIO 310 or consent of instructor.

**BIOL 722**

**Credits 3**

**Advanced Taxonomy of Vascular Plants**

Identification, classification, and evolutionary relationships of the subfamilies and tribes of the composite, legume, and grass families. Notes: Three hours laboratory. Prerequisites: BIO 422

**BIOL 730A-D**

**Credits 3**

**Special Lectures in Life Sciences**

Reserved for formal didactic classes with varying special current topics in different disciplines of life sciences. Lettering system reflects focus on topics specific for each Section within Life Sciences (A = Ecology and Evolution, B = Organismal Physiology, C = Cell and Molecular Biology, D = Microbiology). Notes: May be repeated to a maximum of nine credits. Prerequisites: Consent of instructor.

**BIOL 742**

**Credits 2**

**Topics in Advanced Plant Physiology**

Advanced treatment of current topics in plant physiology. Topics for consideration selected from one of the three following major subject areas: (a) Water relations, ion balance, and mineral nutrition; (b) Photosynthesis, intermediary metabolism, and plant growth; and (c) Stress physiology. Instructor and students decide which area covered during a given semester. Notes: May be repeated to a maximum of six credits. Prerequisites: BIO 442

**BIOL 743**

**Credits 3**

**Ecological Plant Physiology**

Examination of the physiological responses and adaptations of terrestrial plants to their environment. Primary topics covered include microclimate analysis, water relations, gas exchange, nutrient relations, and adaptations to stress. Adaptations of plants from contrasting physical environments emphasized. Prerequisites: BIO 340 and BIO 442.

**BIOL 745**

**Credits 3**

**Arid Zone Soils**

Role soils have in the soil-plant-atmospheric continuum of arid regions, influence of arid zone soils on all aspects of plant growth and development, influence of soil forming factors on the development of arid soils. Prerequisites: Consent of instructor.

**BIOL 748**

**Credits 3**

**Environmental Physiology**

Examination of physiological responses, including adaptation and acclimatization to extreme physical environments. Consideration of desert, tropical, arctic, mountain, and aquatic environments and their physiology, ecological, and phylogenetic implications.

**BIOL 763**

**Credits 3**

**Vertebrate Reproductive Biology**

Study of vertebrate reproduction at the systematic, organismal and population levels. Individual or group projects. Prerequisites: BIO 350, 448 or 465, and consent of instructor.

**BIOL 781**

**Credits 3**

**Population and Evolutionary Ecology**

Advanced topics in population growth, population interaction and evolution in ecological systems. Includes reading and class discussion of both theoretical and empirical material with emphasis on individual student analysis and integration. Notes: Three hours of lecture and discussion. Prerequisites: BIO 340 or equivalent and consent of instructor.

**BIOL 783**

**Credits 3**

**Community and Ecosystem Ecology**

Readings and evaluation of the highest levels of organization in ecology through: a) exploration of the fundamental concepts of community distributions, structure, organization, and change; and b) analysis of ecosystem-level processes of primary and secondary production and nutrient cycling. Prerequisites: BIO 340 or equivalent and consent of instructor.

**BIOL 784**

**Credits 3**

**Conservation Biology**
Science of scarcity and diversity viewed from the perspective of understanding the causes and consequences of extinction as well as the conditions necessary for maintenance of biotic diversity. Review regional and worldwide developments in this emerging subdiscipline. **Prerequisites:** BIO 340 or consent of instructor.

**BIOL 786**  
*Bioenergetics*  
Review of primary and secondary productivity and associated topics dealing with ecosystem energetics.  
**Notes:** Four hours laboratory. **Prerequisites:** Consent of instructor.

**BIOL 787**  
*Research Laboratory Rotation*  
Provides an opportunity for newly admitted graduate students to experience the research of Biological Sciences graduate faculty through one-on-one interactions. Gives graduate students the information they need to make informal choices about the lab(s) where they carry out their thesis and dissertation research.  
**Notes:** May be repeated to a maximum of three credits. **Grading:** S/F grading only. **Prerequisites:** Admission as a regular graduate student in the M.S. or Ph.D. Program.

**BIOL 789**  
*Independent Graduate Study in Life Sciences*  
Students use this class to receive research credit related to their thesis or dissertation project prior to registering for BIOL 797 or BIOL 799.  
**Notes:** May be repeated to a maximum of nine credits. **Prerequisites:** Consent of instructor.

**BIOL 790A-D**  
*Research Colloquium in Life Sciences*  
Students use this class to present their individual research results to a section-wide audience. Lettering system reflects focus on topics specific for each Section within Life Sciences (A = Ecology and Evolution, B = Organismal Physiology, C = Cell and Molecular Biology, D = Microbiology).  
**Notes:** May be repeated to a maximum of nine credits. **Prerequisites:** Consent of instructor.

**BIOL 791**  
*Research Laboratory Discussions in Life Sciences*  
Students present their research and discuss the work of colleagues during formal laboratory meetings with their mentor's research group.  
**Notes:** May be repeated to a maximum of ten credits. **Prerequisites:** Consent of instructor.

**BIOL 792**  
*Advanced Topics in Cell and Molecular Biology*  
Includes papers, oral presentations and discussion of current literature in these fields.  
**Notes:** Topics announced with each offering. May be repeated to a maximum of twelve credits. **Prerequisites:** Graduate standing and consent of instructor.

**BIOL 793A-D**  
*Advanced Topics in Life Sciences*  
A seminar-style class where presentations are organized around a common theme. Students present and discuss the related primary literature. Lettering system reflects focus on topics specific for each Section within Life Sciences (A = Ecology and Evolution, B = Organismal Physiology, C = Cell and Molecular Biology, D = Microbiology).  
**Notes:** May be repeated to a maximum of six credits. **Prerequisites:** Consent of instructor.

**BIOL 794**  
*Techniques in Molecular Biology*  
Introduction to the theory and laboratory methods used in molecular biology research. Topics include the isolation and purification of nucleic acids, restriction digests, cloning, Southern blotting, PCR, DNA sequencing, and electrophoresis.  
**Notes:** Three to nine laboratory hours per week. **Prerequisites:** Consent of instructor.

**BIOL 795**  
*Teaching Strategies for University Science Courses*  
Designed for graduate students in the sciences and will prepare you for University-level science teaching, whether pursuing a research-based or teaching-based faculty position. We explore different learning theories, current research about learning...
science and applying them to teaching and the
development of a personal teaching philosophy.

**BIOL 796 A-D**  
**Credits 1 – 2**  
**Graduate Seminar**  
Instructs students on how to prepare and present seminars on topics of current interest in life sciences. Lettering system reflects focus on topics specific for each Section within Life Sciences (A = Ecology and Evolution, B = Organismal Physiology, C = Cell and Molecular Biology, D = Microbiology). **Notes:** May be repeated to a maximum of ten credits.  
**Prerequisites:** Graduate standing in biology.

**BIOL 797**  
**Credits 3 – 6**  
**Thesis**  
**Notes:** May be repeated but only six credits applied to the student's program. Enrollment by consent of instructor only. **Grading:** S/F grading only.

**BIOL 799**  
**Credits 3 – 6**  
**Dissertation**  
Research analysis and writing toward completion of dissertation and subsequent defense. **Notes:** May be repeated but a maximum of only 18 credits may be applied to the degree program. **Grading:** S/F grading only.  
**Prerequisites:** Graduate standing in the Biology Ph.D. program and consent of instructor.
Mathematical Sciences

Chair

DuBose, Derrick A.
(1987), Associate Professor; B.A., California State University, Long Beach; M.A., Ph.D., University of California, Los Angeles.

Graduate Coordinator

Burke, Douglas
(1994), Associate Professor; B.S., University of Wisconsin, Madison; M.A., University of California, Berkeley; Ph.D., University of California, Los Angeles.

Graduate Faculty

Amei, Amei
(2007), Assistant Professor; B.S., Inner Mongolia University; M.S., University of Science and Technology of China; Ph.D., Washington University.

Ananda, Malwane M.A.
(1990), Professor; B.S., University of Sri Jayewardenepura; M.S., Ph.D., Purdue University.

Bachman, Gennady
(1991), Professor; B.A., Temple University; Ph.D., University of Illinois.

Baragar, Arthur
(1997), Associate Professor; B.S., University of Alberta; Ph.D., Brown University.

Bellomo, Carryn
(2003), Associate Professor; B.S., M.S., Ph.D., Old Dominion University.

Bhatnagar, Satish C.
(1974) Professor; B.A. (honor), M.A., Panjab University, India; M.A., Ph.D. Indiana University.

Catlin, Sandra
(1997), Associate Professor; B.A., University of California, Berkeley; M.S., Ph.D., University of Washington.

Cho, Hokwon
(1999), Associate Professor; B.A., Korea University; M.A., Ph.D., University of California, Santa Barbara.

Costa, David
(1993), Professor; B.S., Federal University of Pernambuco, Recife, Brazil; Ph.D., Brown University.

Dalpatadu, Rohan
(1985), Associate Professor; B.S., University of Ceylon; M.S., Ph.D., Southern Illinois University at Carbondale.

Ding, Zhonghai
(1995), Professor; B.S., Nanjing Institute of Technology; M.S., Institute of Systems Science; Ph.D., Texas A&M University.

Ghosh, Kaushik
(2007), Assistant Professor; B. Stat., Indian Statistical Institute; M.Stat., Indian Statistical Institute; Ph.D., University of California Santa Barbara.

Ho, Chih-Hsiang
(1986), Professor; B.S., National Central University; M.S., New Mexico Highlands University; M.S., Ph.D., University of Minnesota.

Li, Jichun
(2000), Associate Professor; B.S., M.S., Nanjing University, China; Ph.D., Florida State University.
Li, Xin
(1992), Associate Professor; B.S., M.S., Jilin University, Changchun; Ph.D., Texas A&M University.

Marcozzi, Michael
(1997), Associate Professor; B.S., M.S., Ph.D., University of Delaware.

Muleshkov, Angel
(1989), Associate Professor; M.S., Ph.D., University of Washington.

Neda, Monika
(2007), Assistant Professor; B.S., University of Novi Sad; Ph.D., University of Pittsburgh.

Phanord, Dieudonne’ D.
(2002), Professor; B.S., Gordon College; M.S., Ph.D., University of Illinois, Chicago.

Salehi, Ebrahim
(1985), Associate Professor; B.S., University of Tehran; M.S., Institute of Mathematics, Tehran; M.S., Ph.D., University of Washington.

Robinette, Michelle
(1996), Associate Professor; B.S., M.A., Ph.D., Western Michigan University.

Shiue, Peter
(1985), Professor; B.S., National Taiwan Normal University; M.S., Ph.D., Southern Illinois University.

Sun, Pengtao
(2007), Assistant Professor; B.S., M.S., Shandong University; Ph.D. Institute of Mathematics, Academia Sinica.

Tehrani, Hossein
(1997), Associate Professor; B.S., Sharif University of Technology; M.S., Ph.D., Courant Institute of Mathematical Sciences.

Westveld, Anton H.
(2007), Assistant Professor; B.A., M.A., University of Michigan; Ph.D., University of Washington.

Yang, Hongtao
(2007), Assistant Professor; B.S., M.S., Jilin University; Ph.D., University of Alberta.

Professors Emeriti

Aizely, Paul
(1968-2008), Professor; B.A., Harvard University; M.S., University of Arizona; Ph.D., Arizona State University.

Bowman, Harold
(1972-1999), Emeritus Associate Professor; B.E.E., City College of New York; M.A., Oklahoma University; Ph.D., Arizona State University.

Graham, Malcolm
(1956-1985), Emeritus Professor; B.S., New Jersey State College; M.S., University of Massachusetts: Ed.D., Columbia University.

Miel, George, J.
(1977-1985 & 1991-2006), Emeritus Professor; B.S., M.S., University of Illinois; Ph.D., University of Wyoming.

Nietling, Lloyd
(1967-1992), Emeritus Associate Professor; B.A., St. Mary of the Plains College; B.S., Aquinas College; M.A., University of Michigan; Ph.D., Ohio State University.

The Department of Mathematical Sciences offers both the Master of Science and Doctor of Philosophy degrees. The M.S. program has areas of concentration in Pure Mathematics, Applied Mathematics, Applied Statistics, Statistics, and Teaching Mathematics. The Ph.D. program has areas
of concentration in Applied Mathematics, Computational Mathematics, Pure Mathematics, and Statistics. Specific disciplines include approximation theory, applied complex analysis, bioinformatics, biostatistics, calculus of variations, combinatorics, control theory, finite fields, graph theory, mathematical education, mathematical modeling, number theory, numerical analysis, partial differential equations, scientific computing, set theory, statistics. Excellent computing facilities are available for classroom studies and research. The Department of Mathematical Sciences, through an active faculty, offers graduate students both an unusual amount of personal attention and a lively research atmosphere. The degree programs are designed to provide students with a strong theoretical background in graduate-level mathematics. Our graduates have been successful in finding employment in industry, government and education.

Programs
- Mathematical Sciences M.S.
- Mathematical Sciences Ph.D.
- Dual Master of Science in Mathematical Sciences & Master of Arts in Economics

Dual Master of Science in Mathematical Sciences & Master of Arts in Economics
The dual Master of Science in Mathematical Sciences and Master of Arts in Economics combines economic reasoning with mathematical methods. The program attracts students with focused career choices that require core competence in analytical skills and mathematical methods. It also prepares students with interests in pursuing a Ph.D. in economics with substantial quantitative skills, or a Ph.D. in Mathematics with economic applications. We believe that the analytical nature of the program will attract high quality undergraduates.

The MS in Mathematical Sciences portion of the dual degree is designed to equip graduate students with a solid foundation of mathematics, statistics, and real-world applications. The MA in Economics portion of the dual degree advances students’ knowledge in macro- and micro-economic theory. It also provides students with econometrics as well as developing their communication skills.

Degree Requirements
A minimum of 51 credits of graduate work is required for the Dual M.S. and M.A. Program in Mathematics and Economics, including at least 21 credits of course work in mathematics and at least 21 credits of course work in economics. In addition, 15 of 21 credits of mathematics course work must be at the 700 level, and 18 of 21 credits of economics courses must be at 700 level. A minimum GPA of 3.00 is required for the graduate course work that is part of the degree program. The following specific requirements must be met:

1. Core Requirements:
   Mathematics Core Requirements: 18 credits
   MAT 657 - Introduction to Real Analysis I
   MAT 663 - Advanced Matrix Theory and Applications
   MAT 707 - Real Analysis I
   MAT 709 - Complex Function Theory I
   MAT 723 - Advanced Ordinary Differential Equations I
   MAT 771 - Applied Analysis I
   STA 761 - Regression Analysis I
   STA 762 - Regression Analysis II
   STA 767 - Mathematical Statistics I
   STA 768 - Mathematical Statistics II
   Economics Core Requirements: 18 credits
   ECO 701 - Macroeconomic Theory
   ECO 702 - Microeconomic Theory
   ECO 740 - Mathematical Economics
   ECO 770 - Econometrics I, Statistical Modeling
   ECO 772 - Econometrics II
   ECO 793 - Seminar in Economic Research

3. Three credits of MAT or STA course work at the 700 level in a field of special interest to the student, excluding those credits used to meet the Mathematics Core Requirements.

4. Three credits of ECO course work at the 600 or 700 level in a field of special interest to the student,
excluding those credits used to meet the Economics Core Requirements.

5. Six credits for the thesis in MAT 791 or STA 791. Students are required to defend a thesis on subjects in the interdisciplinary area of Mathematics and Economics. The committee chair and two other committee members must be from the Mathematics Department. The thesis committee must be composed at minimum of two graduate faculty members from the Economics Department.

6. Three credits for a professional paper, ECO 794. The committee for the professional paper must be composed of a chair and two committee members from the Economics Department and one graduate faculty member from the Mathematics Department.

Admission Requirements
The Departments of Mathematical Sciences and Economics welcome applications from college graduates in all fields. Applicants must satisfy the minimum requirement of the Graduate College, the MA in Economics program, and the MS in Mathematics program.

Admission to the M.S. Program in Mathematical Sciences
It requires that an applicant has a bachelor’s degree with a minimum GPA of 2.75 for all undergraduate work or a minimum GPA of 3.00 for the last two years of undergraduate work, and completed at least 18 credits of upper-division mathematics or statistics courses beyond calculus. If applicable, international applicants must submit an official TOEFL score (minimum score of 79 for the IBT, 213 for the computer test, or 550 for the paper test).

To apply for admission to the M.S. Program, applicants must submit application materials to both the Graduate College and the Department of Mathematical Sciences. Firstly, applicants must submit to the Graduate College the following materials: a completed application form; the official transcripts from all colleges and universities the student has attended; and the official TOEFL score if applicable. Secondly, applicants must submit to the Department of Mathematical Sciences the following materials: copies of all official transcripts sent to the Graduate College; at least two letters of recommendation from persons familiar with the applicant’s academic record and potential for advanced study in mathematical sciences; a completed application form for Graduate Assistantship, if interested; and a statement of purpose describing the aim in applying for graduate study, the particular area of specialization within the mathematical sciences (if known), and any additional information that may aid the selection committee in evaluating the applicant’s preparation and aptitude for graduate study.

Admission to the M.A. Program in Economics
1. Meet the general requirements for admission to graduate instruction at the University of Nevada, Las Vegas, as described by the Graduate College.

2. Complete the prerequisite preparation in intermediate microeconomic theory (ECON-302), intermediate macroeconomic theory (ECON-303), and statistical analysis (ECON-262), plus at least one semester of calculus. Students interested in the economics MA with insufficient undergraduate preparation may be admitted contingent on the deficiency being corrected by taking one or two undergraduate courses. Such students should contact the department's graduate coordinator before applying for the program.

3. Achieve a score of 2100 or higher on the following formula: 200 times the grade point average (computed on a 4.00 scale) plus 1.5 times the combined score on the quantitative and verbal portion of the Graduate Record Exam. Students may substitute the GMAT score for the GRE, in which case the GMAT score will be multiplied by 3 and added to 200 times the grade point average.

4. International applicants from countries where English is not the native language, or who did not receive a degree from an institution where English is the language of instruction, must show competency in English. The Graduate College requires a score of 550 on the written, or 213 on the
computerized, version of the Test of English as a Foreign Language (TOEFL) or 85 on the Michigan Test. Credentials not written in English must be accompanied by a certified English translation, as described by the Graduate College.

5. International applicants must submit a completed Certificate of Finance to the Office of International Students & Scholars. In addition, international applicants must satisfy the financial eligibility requirements before an I-20 will be issued.

6. Complete the Graduate College application online and submit a nonrefundable admission application fee. Mail official transcripts to the Graduate College and Economics Department, respectively. Send two letters of recommendation, letter of intent as well as the official test score, GRE or GMAT to the Economics Department.

Mathematical Sciences M.S.

Admission Requirements

Admission to the M.S. Program in Mathematical Sciences requires that an applicant has a bachelor’s degree with a minimum GPA of 2.75 for all undergraduate work or a minimum GPA of 3.00 for the last two years of undergraduate work, and completed at least 18 credits of upper-division mathematics or statistics courses beyond calculus. If applicable, international applicants must submit an official TOEFL score (minimum score of 79 for the IBT, 213 for the computer test, or 550 for the paper test).

To apply for admission to the M.S. Program, applicants must submit application materials to both the Graduate College and the Department of Mathematical Sciences. Firstly, applicants must submit to the Graduate College the following materials:
1. a completed application form;
2. the official transcripts from all colleges and universities the student has attended;
3. the official TOEFL score if applicable.

Secondly, applicants must submit to the Department the following materials:
1. copies of all official transcripts sent to the Graduate College;
2. at least two letters of recommendation from persons familiar with the applicant’s academic record and potential for advanced study in mathematical sciences;
3. a completed application form for Graduate Assistantship, if interested;
4. a statement of purpose describing the aim in applying for graduate study, the particular area of specialization within the mathematical sciences (if known), and any additional information that may aid the selection committee in evaluating preparation and aptitude for graduate study.

Details of the admission procedure for the M.S. Program can be found on the Department’s web site.

Degree Requirements

A minimum of 30 credits of graduate work is required for the M.S. in Mathematical Sciences, including at least 27 hours of course work. At least 18 of the 27 credits must be at the 700 level. The following specific requirements must be met:

Pure Mathematics Concentration

1. Core Requirement: Six credits of analysis drawn from the list below plus three credits of algebra at the 700 level.
   - MAT 707 - Real Analysis I
   - MAT 708 - Real Analysis II
   - MAT 709 - Complex Function Theory I
   - MAT 710 - Complex Function Theory II
   - MAT 771 - Applied Analysis I
   - MAT 772 - Applied Analysis II

2. Six credits of MAT course work at the 700 level in a field of special interest to the student, excluding those credits used to meet the core requirement.

3. Six credits for thesis or additional six credits of MAT course work at the 700 level.

4. Final Examination: This will be either an examination to defend the thesis or a written comprehensive examination based on requirements 1 and 2.
Applied Mathematics Concentration
1. Core Requirement:
   Six credits of analysis drawn from:
   - MAT 707 - Real Analysis I
   - MAT 708 - Real Analysis II
   - MAT 709 - Complex Function Theory I
   - MAT 710 - Complex Function Theory II
   - MAT 771 - Applied Analysis I
   - MAT 772 - Applied Analysis II
   and three credits of numerical analysis drawn from:
   - MAT 663 - Advanced Matrix Theory and Applications
   - MAT 675 - Advanced Numerical Analysis
   - MAT 677 - Topics in Numerical Analysis
2. Six credits of MAT course work at the 700 level in applied and computational mathematics, excluding those credits used to meet the core requirement.
3. Six credits of thesis or additional six credits of MAT course work at the 700 level.
4. Final Examination: This will be either an examination to defend the thesis or a written comprehensive examination based on requirements 1 and 2.

Statistics Concentration
1. Mathematics Requirement: Six credits consisting of the following courses:
   - MAT 657 - Introduction to Real Analysis I
   - MAT 663 - Advanced Matrix Theory and Applications
   *This above requirement may be waived for students who have taken MAT 457 and MAT 463 with a grade of B or above.*
2. Core Requirement: Twelve credits of the following
   - STA 761 - Regression Analysis I
   - STA 762 - Regression Analysis II
   - STA 765 - Mathematical Statistics I
   - STA 767 - Mathematical Statistics II
3. Six credits of STA course work at the 700 level in a field of special interest to the student, excluding those credits used to meet the core requirement.
4. Six credits for thesis or additional six credits of STA courses at the 700 level in the appropriate area of specialization.
5. Final Examination: This will be either an examination to defend the thesis or a written comprehensive examination based on requirement 2.

Teaching Mathematics Concentration
1. Mathematics Requirement: A total of eighteen credits including nine credits from:
   - MAT 711 - Survey of Mathematical Problems I
   - MAT 712 - Survey of Mathematical Problems II
   - MAT 714 - History of Mathematics
   - MAT 653 - Abstract Algebra I
   - MAT 654 - Abstract Algebra II
   - MAT 703 - Abstract Algebra III
   - MAT 704 - Abstract Algebra IV
   - MAT 655 - Elementary Theory of Numbers I
   - MAT 669 - Combinatorics I
   - MAT 670 - Combinatorics II
   three credits in algebra selected from:
   - MAT 657 - Introduction to Real Analysis I
   - MAT 658 - Introduction to Real Analysis II
   - MAT 707 - Real Analysis I
   - MAT 708 - Real Analysis II
   - MAT 659 - Elementary Complex Analysis
   - MAT 709 - Complex Function Theory I
   - MAT 710 - Complex Function Theory II
   - MAT 687 - Introduction to Partial Differential Equations
   and three credits in foundations selected from:
   - MAT 651 - Foundations of Mathematics I
   - MAT 652 - Foundations of Mathematics II
   - MAT 701 - Foundations of Mathematics III
   - MAT 702 - Foundations of Mathematics IV
   - MAT 680 - College Geometry
   - MAT 683 - General Topology I
   - MAT 684 - General Topology II
2. Education Requirement: Six credits in education from:
   - CIS 622 - Instructional Middle School Mathematics Education
   - CIS 624 - Instruction Secondary Mathematics Education
   - CIG 620 - Principles of Learning Mathematics
3. Three credits for professional paper or additional six credits of MAT or STA course work at the 700 level.
4. Final Examination: This will be either an examination to defend the professional paper or a written comprehensive examination designed and administered by the Student Advisory Committee. Note: MAT 711 and 712 do not count as graduate credits toward a M.S. in Mathematical Sciences with concentration in pure mathematics, applied mathematics, or statistics. A student will be placed on academic probation if a minimum of 3.00 GPA is not maintained in all work taken in the degree program. A grade of C or less in one graduate-level course will cause a student to be placed on academic probation and will elicit a critical review of the student’s program by the Graduate Studies Committee. The Graduate College requires a minimum of 50 percent of the total credits required to complete the graduate degree, exclusive of transferred credits and/or the thesis/dissertation, must be earned at UNLV after admission to a graduate degree program.

Mathematical Sciences Ph.D.

Admission Requirements

In addition to the requirements of the Graduate College, applicants must satisfy the admission requirements of the Department of Mathematical Sciences summarized as follows. Applicants seeking direct admission to the doctoral program without a previously earned master’s degree must have a minimum GPA of 3.00 for all undergraduate work or a minimum GPA of 3.25 for the last two years of undergraduate mathematics work. Applicants with a master’s degree must have a minimum GPA 3.00 for all graduate work and at least 15 credits of graduate course work in Mathematical Sciences with a grade of B or better. Applicants must submit the official score of the GRE General Test with a minimum score of 700 in the quantitative part. If applicable, international applicants must submit an official TOEFL score (minimum score of 79 for the IBT, 213 for the computer test, or 550 for the paper test). To apply for admission to the Ph.D. Program, applicants must submit application material to both the Graduate College and the Department of Mathematical Sciences. Firstly, applicants must submit to the Graduate College the following materials:
1. a completed application form;
2. the official transcripts from all colleges and universities the student has attended;
3. the official GRE General Test score;
4. the official TOEFL score if applicable;
Secondly, applicants must submit to the Department the following materials:
1. copies of all official transcripts sent to the Graduate College;
2. at least three letters of recommendation from persons familiar with the applicant’s academic record and potential for advanced study in mathematical sciences;
3. a completed application for Graduate Assistantship, if interested;
4. a statement of purpose describing the aim in applying for graduate study, the particular area of specialization within the mathematical sciences (if known), and any additional information that may aid the selection committee in evaluating preparation and aptitude for graduate study. Details of the admission procedure for the Ph.D. Program can be found on the Department’s web site.

Degree Requirements

1. Credit requirement. The doctoral students entering the program with a Bachelor’s degree are required to complete a minimum of 60 credits of course work, at least 36 of which must be at the 700-level. The doctoral students entering the program with an M.S. degree are required to complete at least 30 credits of course work, at least 18 of which must be at the 700-level. Each doctoral student must complete a dissertation embodying the results of original research which is acceptable to the student’s advisory committee. A student must enroll in a minimum of 18 credits of Dissertation. A maximum of 24 credits of Dissertation can be counted toward the Ph.D. degree.
2. Qualifying Examination. The purpose of the Qualifying Examination is to measure the student’s knowledge of basic graduate course work in selected areas and to make sure that the student is prepared to
proceed to more advanced studies. A doctoral student normally takes the Qualifying Examination within the second year after entering the program, based on the core courses in the student’s concentration. Doctoral students must pass the Qualifying Examination within three years. For each concentration, the Qualifying Examination consists of two parts, which are based on:

**Applied Mathematics**
Part I: MAT 707-708 or MAT 709-710  
Part II: MAT 771-772  

**Computational Mathematics**
Part I: MAT 707-708 or MAT 709-710  
Part II: MAT 765-766  

**Pure Mathematics**
Part I: MAT 707-708 or MAT 709-710  
Part II: MAT 703-704  

**Statistics**
Part I: STA 767-768  
Part II: STA 761-762

A student who fails the Qualifying Examination on the first attempt must complete a second examination within the next twelve months. A student who entered the program with a Bachelor’s degree and who fails the second examination may be allowed to complete a M.S. degree with the consent of the Graduate Studies Committee. Such a student will not be permitted to seek readmission to the Doctoral Program in Mathematical Sciences at UNLV. A student who fails the Qualifying Examination a second time and who entered the Doctoral Program with an M.S. degree in Mathematical Sciences will be separated from the program.

3. **Subject Area Breadth Requirements.** With the goal of encouraging students to be exposed to a broad spectrum of mathematics during their graduate studies, doctoral students are required to take at least two one-year sequence courses with a grade of B or better, in addition to the core courses tested by the Ph.D. Qualifying Examination. Students are required to choose two one-year course sequences based on the following list:

**Applied Mathematics**
MAT 703-704, MAT 723-724, MAT 729-730,  
MAT 733-734, MAT 771-772, STA 767-768.

**Computational Mathematics**
MAT 701-702, MAT 717-718, MAT 723-724,  
MAT 733-734, MAT 771-772, STA 767-768.

**Pure Mathematics**
MAT 701-702, MAT 717-718, MAT 723-724,  
MAT 733-734, MAT 771-772, STA 767-768.

**Statistics**
STA 713 & 715, STA 750-751, STA 755-756,  
STA 753 & 765, STA 763-764, MAT 707 & STA 731.

4. **Comprehensive Examination.** The purpose of the Comprehensive Examination is to measure a doctoral student’s knowledge of the advanced level graduate work that will be required as the student begins to do original research in his or her area of concentration. After passing the Qualifying Examination, a student will engage in the approved course work specified by the Doctoral Advisory Committee and submit to the latter a dissertation proposal. Usually one year after passing the Qualifying Examination, a student will complete the Comprehensive Examination, designed and administered by the Doctoral Advisory Committee, based on the student’s course work with focus on his/her ability to perform research on the dissertation proposal. A student who fails the Comprehensive Examination on the first attempt must complete a second examination within the next semester. A student who fails the examination a second time will be separated from the Doctoral Program. A student who has successfully passed the Comprehensive Examination will be admitted to Candidacy for the Ph.D. degree and thereby be allowed to proceed with the approved dissertation proposal.

5. **Dissertation.** A doctoral candidate is expected to complete a dissertation embodying the results of significant original research, which is performed independently by the student, and is acceptable to the student’s advisory committee.

6. **Additional Requirements.** Skills in foreign languages, computer programming and/or interdisciplinary areas, dependent on the concentration of a student’s program, will be determined by the Doctoral Advisory
Committee and the Graduate Studies Committee in consultation with the Department Chair.

7. **Dissertation Defense.** After submitting to the Doctoral Advisory Committee a dissertation draft that was approved by his/her Dissertation Advisor, a candidate will defend orally the dissertation before the Doctoral Advisory Committee and any other graduate faculty members who wish to attend. The Doctoral Advisory Committee will recommend to the Graduate Coordinator/Department Chair whether the dissertation and defense are both satisfactory.

Specific degree requirements, including those listed above, are described in detail in the Graduate Student Handbook for the Ph.D. Program, available on the department’s web site. The listing of graduate courses is constantly under review. Graduate students will automatically receive new listings. Since some courses are taught on an “on demand” basis, course prerequisites for each of the four concentrations are considered guidelines with courses roughly equivalent accepted as prerequisites, subject to approval of the Graduate Studies Committee and the student’s Doctoral Advisory Committee.

A student will be placed on academic probation if a minimum of 3.00 GPA is not maintained in all work taken in the degree program. A grade of C or less in one graduate-level course will cause a student to be placed on academic probation and will elicit a critical review of the student’s program by the Graduate Studies Committee.

The Graduate College requires a minimum of 50 percent of the total credits required to complete the doctoral degree, exclusive of transferred credits and/or the dissertation, must be earned at UNLV after admission to a graduate degree program.

**MAT 651**

**Foundations of Mathematics I**

This course, when taught by a member of the graduate faculty, may be applied to a graduate program. For listings and a course description of this 600-level course, please consult the current Undergraduate Catalog under the corresponding 400 number. **Notes:** The 600-level MAT and STA courses that are normally available for graduate credit are those numbered 650 or higher; the exceptions are MAT 680, which may be counted for graduate credit in an education degree program, and STA 691, STA 693, and STA 695, which may be counted for graduate credit in a biological sciences program.

**MAT 652**

**Foundations of Mathematics II**

This course, when taught by a member of the graduate faculty, may be applied to a graduate program. For listings and a course description of this 600-level course, please consult the current Undergraduate Catalog under the corresponding 400 number. **Notes:** The 600-level MAT and STA courses that are normally available for graduate credit are those numbered 650 or higher; the exceptions are MAT 680, which may be counted for graduate credit in an education degree program, and STA 691, STA 693, and STA 695, which may be counted for graduate credit in a biological sciences program.

**MAT 653**

**Abstract Algebra I**

This course, when taught by a member of the graduate faculty, may be applied to a graduate program. For listings and a course description of this 600-level course, please consult the current Undergraduate Catalog under the corresponding 400 number. **Notes:** The 600-level MAT and STA courses that are normally available for graduate credit are those numbered 650 or higher; the exceptions are MAT 680, which may be counted for graduate credit in an education degree program, and STA 691, STA 693, and STA 695, which may be counted for graduate credit in a biological sciences program.

**MAT 654**

**Abstract Algebra II**

This course, when taught by a member of the graduate faculty, may be applied to a graduate program. For listings and a course description of this 600-level course, please consult the current Undergraduate Catalog under the corresponding 400 number. **Notes:** The 600-level MAT and STA
courses that are normally available for graduate credit are those numbered 650 or higher; the exceptions are MAT 680, which may be counted for graduate credit in an education degree program, and STA 691, STA 693, and STA 695, which may be counted for graduate credit in a biological sciences program.

MAT 655
Elementary Theory of Numbers I
This course, when taught by a member of the graduate faculty, may be applied to a graduate program. For listings and a course description of this 600-level course, please consult the current Undergraduate Catalog under the corresponding 400 number. Notes: The 600-level MAT and STA courses that are normally available for graduate credit are those numbered 650 or higher; the exceptions are MAT 680, which may be counted for graduate credit in an education degree program, and STA 691, STA 693, and STA 695, which may be counted for graduate credit in a biological sciences program.

MAT 656
Elementary Theory of Numbers II
This course, when taught by a member of the graduate faculty, may be applied to a graduate program. For listings and a course description of this 600-level course, please consult the current Undergraduate Catalog under the corresponding 400 number. Notes: The 600-level MAT and STA courses that are normally available for graduate credit are those numbered 650 or higher; the exceptions are MAT 680, which may be counted for graduate credit in an education degree program, and STA 691, STA 693, and STA 695, which may be counted for graduate credit in a biological sciences program.

MAT 657
Introduction to Real Analysis I
This course, when taught by a member of the graduate faculty, may be applied to a graduate program. For listings and a course description of this 600-level course, please consult the current Undergraduate Catalog under the corresponding 400 number. Notes: The 600-level MAT and STA courses that are normally available for graduate credit are those numbered 650 or higher; the exceptions are MAT 680, which may be counted for graduate credit in an education degree program, and STA 691, STA 693, and STA 695, which may be counted for graduate credit in a biological sciences program.

MAT 658
Introduction to Real Analysis II
This course, when taught by a member of the graduate faculty, may be applied to a graduate program. For listings and a course description of this 600-level course, please consult the current Undergraduate Catalog under the corresponding 400 number. Notes: The 600-level MAT and STA courses that are normally available for graduate credit are those numbered 650 or higher; the exceptions are MAT 680, which may be counted for graduate credit in an education degree program, and STA 691, STA 693, and STA 695, which may be counted for graduate credit in a biological sciences program.

MAT 659
Elementary Complex Analysis
This course, when taught by a member of the graduate faculty, may be applied to a graduate program. For listings and a course description of this 600-level course, please consult the current Undergraduate Catalog under the corresponding 400 number. Notes: The 600-level MAT and STA courses that are normally available for graduate credit are those numbered 650 or higher; the exceptions are MAT 680, which may be counted for graduate credit in an education degree program, and STA 691, STA 693, and STA 695, which may be counted for graduate credit in a biological sciences program.

MAT 661
Probability Theory
This course, when taught by a member of the graduate faculty, may be applied to a graduate program. For listings and a course description of this 600-level course, please consult the current Undergraduate Catalog under the corresponding 400 number. Notes: The 600-level MAT and STA courses that are normally available for graduate credit are those numbered 650 or higher; the exceptions are
MAT 680, which may be counted for graduate credit in an education degree program, and STA 691, STA 693, and STA 695, which may be counted for graduate credit in a biological sciences program.

MAT 662
Stochastic Processes
This course, when taught by a member of the graduate faculty, may be applied to a graduate program. For listings and a course description of this 600-level course, please consult the current Undergraduate Catalog under the corresponding 400 number. Notes: The 600-level MAT and STA courses that are normally available for graduate credit are those numbered 650 or higher; the exceptions are MAT 680, which may be counted for graduate credit in an education degree program, and STA 691, STA 693, and STA 695, which may be counted for graduate credit in a biological sciences program.

MAT 663
Advanced Matrix Theory and Applications
This course, when taught by a member of the graduate faculty, may be applied to a graduate program. For listings and a course description of this 600-level course, please consult the current Undergraduate Catalog under the corresponding 400 number. Notes: The 600-level MAT and STA courses that are normally available for graduate credit are those numbered 650 or higher; the exceptions are MAT 680, which may be counted for graduate credit in an education degree program, and STA 691, STA 693, and STA 695, which may be counted for graduate credit in a biological sciences program.

MAT 665
Numerical Analysis I
This course, when taught by a member of the graduate faculty, may be applied to a graduate program. For listings and a course description of this 600-level course, please consult the current Undergraduate Catalog under the corresponding 400 number. Notes: The 600-level MAT and STA courses that are normally available for graduate credit are those numbered 650 or higher; the exceptions are MAT 680, which may be counted for graduate credit in an education degree program, and STA 691, STA 693, and STA 695, which may be counted for graduate credit in a biological sciences program.

MAT 666
Numerical Analysis II
This course, when taught by a member of the graduate faculty, may be applied to a graduate program. For listings and a course description of this 600-level course, please consult the current Undergraduate Catalog under the corresponding 400 number. Notes: The 600-level MAT and STA courses that are normally available for graduate credit are those numbered 650 or higher; the exceptions are MAT 680, which may be counted for graduate credit in an education degree program, and STA 691, STA 693, and STA 695, which may be counted for graduate credit in a biological sciences program.

MAT 668
Applied Finite Element Analysis
This course, when taught by a member of the graduate faculty, may be applied to a graduate program. For listings and a course description of this 600-level course, please consult the current Undergraduate Catalog under the corresponding 400 number. Notes: The 600-level MAT and STA courses that are normally available for graduate credit are those numbered 650 or higher; the exceptions are MAT 680, which may be counted for graduate credit in an education degree program, and STA 691, STA 693, and STA 695, which may be counted for graduate credit in a biological sciences program.

MAT 669
Combinatorics I
This course, when taught by a member of the graduate faculty, may be applied to a graduate program. For listings and a course description of this 600-level course, please consult the current Undergraduate Catalog under the corresponding 400 number. Notes: The 600-level MAT and STA courses that are normally available for graduate credit are those numbered 650 or higher; the exceptions are MAT 680, which may be counted for graduate credit in an education degree program, and STA 691, STA
693, and STA 695, which may be counted for graduate credit in a biological sciences program.

**MAT 670**  
**Combinatorics II**  
This course, when taught by a member of the graduate faculty, may be applied to a graduate program. For listings and a course description of this 600-level course, please consult the current Undergraduate Catalog under the corresponding 400 number. **Notes**: The 600-level MAT and STA courses that are normally available for graduate credit are those numbered 650 or higher; the exceptions are MAT 680, which may be counted for graduate credit in an education degree program, and STA 691, STA 693, and STA 695, which may be counted for graduate credit in a biological sciences program.

**MAT 680**  
**College Geometry**  
This course, when taught by a member of the graduate faculty, may be applied to a graduate program. For listings and a course description of this 600-level course, please consult the current Undergraduate Catalog under the corresponding 400 number. **Notes**: The 600-level MAT and STA courses that are normally available for graduate credit are those numbered 650 or higher; the exceptions are MAT 680, which may be counted for graduate credit in an education degree program, and STA 691, STA 693, and STA 695, which may be counted for graduate credit in a biological sciences program.

**MAT 683**  
**General Topology I**  
This course, when taught by a member of the graduate faculty, may be applied to a graduate program. For listings and a course description of this 600-level course, please consult the current Undergraduate Catalog under the corresponding 400 number. **Notes**: The 600-level MAT and STA courses that are normally available for graduate credit are those numbered 650 or higher; the exceptions are MAT 680, which may be counted for graduate credit in an education degree program, and STA 691, STA 693, and STA 695, which may be counted for graduate credit in a biological sciences program.

**MAT 684**  
**General Topology II**  
This course, when taught by a member of the graduate faculty, may be applied to a graduate program. For listings and a course description of this 600-level course, please consult the current Undergraduate Catalog under the corresponding 400 number. **Notes**: The 600-level MAT and STA courses that are normally available for graduate credit are those numbered 650 or higher; the exceptions are MAT 680, which may be counted for graduate credit in an education degree program, and STA 691, STA 693, and STA 695, which may be counted for graduate credit in a biological sciences program.

**MAT 687**  
**Introduction to Partial Differential Equations**  
This course, when taught by a member of the graduate faculty, may be applied to a graduate program. For listings and a course description of this 600-level course, please consult the current Undergraduate Catalog under the corresponding 400 number. **Notes**: The 600-level MAT and STA courses that are normally available for graduate credit are those numbered 650 or higher; the exceptions are MAT 680, which may be counted for graduate credit in an education degree program, and STA 691, STA 693, and STA 695, which may be counted for graduate credit in a biological sciences program.

**MAT 689**  
**Advanced Mathematical Topics**  
This course, when taught by a member of the graduate faculty, may be applied to a graduate program. For listings and a course description of this 600-level course, please consult the current Undergraduate Catalog under the corresponding 400 number. **Notes**: The 600-level MAT and STA courses that are normally available for graduate credit are those numbered 650 or higher; the exceptions are MAT 680, which may be counted for graduate credit in an education degree program, and STA 691, STA
693, and STA 695, which may be counted for graduate credit in a biological sciences program.

**MAT 690 Independent Study**
This course, when taught by a member of the graduate faculty, may be applied to a graduate program. For listings and a course description of this 600-level course, please consult the current Undergraduate Catalog under the corresponding 400 number. **Notes:** The 600-level MAT and STA courses that are normally available for graduate credit are those numbered 650 or higher; the exceptions are MAT 680, which may be counted for graduate credit in an education degree program, and STA 691, STA 693, and STA 695, which may be counted for graduate credit in a biological sciences program.

**MAT 701**
**Credits 3**
**Foundations of Mathematics III**
Selection from the following topics: model theory, recursive function theory, set theory, mathematics of metamathematics. **Prerequisites:** MAT 652

**MAT 702**
**Credits 3**
**Foundations of Mathematics IV**
Selection from the following topics: model theory, recursive function theory, set theory, mathematics of metamathematics. **Prerequisites:** MAT 652

**MAT 703**
**Credits 3**
**Abstract Algebra III**
Detailed study of the following algebraic structures: groups, rings and ideals, fields, modules, and Galois theory. **Prerequisites:** A year of undergraduate abstract algebra or consent of instructor.

**MAT 704**
**Credits 3**
**Abstract Algebra IV**
Detailed study of the following algebraic structures: groups, rings and ideals, fields, modules, and Galois theory. **Prerequisites:** A year of undergraduate abstract algebra or consent of instructor.

**MAT 707**
**Credits 3**
**Real Analysis I**
Theory of measure, integration and differentiation: Banach spaces; Hilbert spaces; spaces of continuous functions. **Prerequisites:** MAT 658

**MAT 708**
**Credits 3**
**Real Analysis II**
Theory of measure, integration and differentiation: Banach spaces; Hilbert spaces; spaces of continuous functions. **Prerequisites:** MAT 658

**MAT 709**
**Credits 3**
**Complex Function Theory I**
Analytic functions, conformal mappings, Cauchy's theorem, power series, Laurent series, the Riemann mapping theorem, harmonic functions, subharmonic functions, canonical mappings of multiply connected regions, analytic continuation. **Prerequisites:** MAT 657 or MAT 659 or equivalent.

**MAT 710**
**Credits 3**
**Complex Function Theory II**
Analytic functions, conformal mappings, Cauchy's theorem, power series, Laurent series, the Riemann mapping theorem, harmonic functions, subharmonic functions, canonical mappings of multiply connected regions, analytic continuation. **Prerequisites:** MAT 657 or MAT 659 or equivalent.

**MAT 711**
**Credits 3**
**Survey of Mathematical Problems I**
Selected topics from logical reasoning, probability, combinatorics, graph theory, codes, number theory, constructibility, game theory, limits, functions, set theory and foundations, and plane geometry. Problem solving and techniques of proof emphasized throughout. Connections made between the mathematics of this course and secondary education mathematics. **Prerequisites:** Graduate standing and consent of instructor.

**MAT 712**
**Credits 3**
**Survey of Mathematical Problems II**
Continuation of topics listed for MAT 711 with emphasis on problem solving and techniques of proof. Again, connections made between the mathematical content of this course and mathematical
content for secondary education. **Prerequisites:** MAT 711 or consent of instructor.

**MAT 714**  
**History of Mathematics**  
Historical development of mathematics from primitive origins to the present time. Lives of many mathematicians and their contributions to the development of mathematics. **Prerequisites:** Graduate standing and consent of instructor.

**MAT 716**  
**Integrative Mathematical Topics**  
Survey of mathematical topics in an integrative manner. The topics may cover theory and applications in long stretches including probability and statistics; combinatorics, number theory and algebra; geometry and topology; ODE and PDE; computation and numerical analysis; Real and complex analysis. **Prerequisites:** At least nine credits at 600-level as required in Requirement #1.

**MAT 717**  
**Analytical Solution Methods for Partial Differential Equations, I**  
Covers the basic theory and methods for solving linear partial differential equations. Emphasis on introducing various techniques to obtain analytical solutions of linear partial differential equations. Techniques include: Method of separation of variables; Fourier transform method; Laplace transform method; Green's function method, etc. **Prerequisites:** MAT 487/687, or MAT 458/658, or consent of instructor.

**MAT 718**  
**Analytical Solution Methods for Partial Differential Equations, II**  
Covers the basic theory and methods for solving nonlinear partial differential equations. Emphasize on introducing various techniques to obtain analytical solutions. Techniques include: Generalized method of characteristics, method of shock wave solution, method of travelling wave solution, perturbation method, method of similarity solution, etc. **Prerequisites:** MAT 487/687, or MAT 717, or consent of instructor.

**MAT 723**  
**Advanced Ordinary Differential Equations I**  
Functional analysis; Frechet calculus; existence and uniqueness theorems for initial and boundary value problems; qualitative properties of solutions, particularly of linear equations. **Prerequisites:** MAT 671-672 or MAT 673-674

**MAT 724**  
**Advanced Ordinary Differential Equations II**  
Topics to be selected from the following: Sturm-Liouville theory, stability theory, perturbation theory, numerical methods, the theory of invariant imbedding and functional differential equations. **Prerequisites:** MAT 723

**MAT 725**  
**Mathematics for Operations Research I**  
Theory of stochastic processes, theory of queues, Markov processes, non-Markov processes. Markov chains, applications. **Prerequisites:** MAT 661

**MAT 726**  
**Mathematics for Operations Research II**  
Linear and non-linear programming, dynamic programming, Lagrange multiplier and duality theorems, control theory and optimal control, applications of programming. **Prerequisites:** MAT 671 and 673

**MAT 729**  
**Partial Differential Equations I**  
Linear and nonlinear first order PDEs. Heat, wave and Laplace equations. Classical representation formulas in one and more dimensions. Properties of solutions: maximum principles, energy methods, uniqueness and regularity considerations. **Prerequisites:** MAT 687 or MAT 717

**MAT 730**  
**Partial Differential Equations II**  
Develops a functional analytical framework which will give students a deeper understanding of the subject matter. Topics include Sobolev and Holder spaces, embedding inequalities, weak solutions,
regularity and maximum principles. **Prerequisites:** MAT 708 and MAT 729, or consent of instructor.

**MAT 731** Credits 3  
**Mathematical Modeling**  
Process and techniques of mathematical modeling with an emphasis on differential equations based models, though other models may also be considered. Applications selected from physical, biological and social sciences. Modeling projects based on student interests. Symbolic computation software. **Prerequisites:** MAT 687 or MAT 717 or consent of instructor.

**MAT 733** Credits 3  
**Topology**  
Selected topics from algebraic and point-set topology with emphasis on algebraic topology. **Prerequisites:** MAT 684 or consent of instructor.

**MAT 734** Credits 3  
**Topology**  
Selected topics from algebraic and point-set topology with emphasis on algebraic topology. **Prerequisites:** MAT 684 or consent of instructor.

**MAT 740** Credits 3  
**Mathematical Wave Propagation Theory and Application I**  
Review of linear wave equations, techniques of linear and non-linear modeling of natural occurrences and their role in understanding mathematical inversion, mathematical foundation of dyadic wave propagation, introduction to asymptotic analysis and boundary layer theory, application to problems for waves propagating in the atmosphere, ocean and space. **Prerequisites:** MAT 717 or MAT 729 or consent of instructor.

**MAT 741** Credits 3  
**Mathematical Wave Propagation Theory and Application II**  
The generalized tensor wave nature of matter, advanced mathematical methods of non-linear and quantum optics. Earth quake dynamics, elastic waves and cracks propagation with applications from earth system and space science. **Prerequisites:** MAT 718 and MAT 740 or consent of instructor.

**MAT 751** Credits 3  
**Topics in Foundations of Mathematics**  
**Notes:** May be repeated for credit with the consent of the mathematics department. Except under special circumstances, total credits limited to six. **Prerequisites:** MAT 701-702

**MAT 753** Credits 3  
**Homological Algebra**  
Modules, categories and factors, tensors, Hom, Tor, Ext, the dimensions of rings and modules, derived factors, cohomology of groups and algebras. **Prerequisites:** MAT 703-704 or consent of instructor.

**MAT 754** Credits 3  
**Homological Algebra**  
Modules, categories and factors, tensors, Hom, Tor, Ext, the dimensions of rings and modules, derived factors, cohomology of groups and algebras. **Prerequisites:** MAT 703-704 or consent of instructor.

**MAT 755** Credits 3  
**Topics in Algebra**  
**Notes:** May be repeated for credit with the consent of the mathematics department. Except under special circumstances, total credits limited to six. **Prerequisites:** MAT 703-704 or consent of instructor.

**MAT 756** Credits 3  
**Arithmetic on Elliptic Curves**  
The group structure of elliptic curves over the reals, complex numbers, the rationals, number fields, and finite fields; Bezout's theorem and its applications; projective geometry; genus; Mordell's theorem; points of finite order; and heights. Additional topics may include complex multiplication; modular forms; and factoring using elliptic curves. **Prerequisites:** MAT 653 and 654, or equivalent.

**MAT 757** Credits 3
MAT 760  Credits 3  
**Mathematical Scattering Theory and Applications I**
Scalar, vector, and tensor scattering with diverse techniques applied to earth system and space science. General Reciprocity Relations Corresponding to Different Directions of Incidence, Dyadic Scattering Theory, Two-Space Scattering Formalism of Victor Twersky, and Applications to Earth and Space Related Problems. **Prerequisites:** MAT 717 or MAT 729 or consent of instructor.

MAT 761  Credits 3  
**Mathematical Scattering Theory and Applications II**
Advanced statistical mechanics and spatial statistics in relation to Twersky scattering with applications from earth system and space science. Calculation of bulk propagation parameters using both configurational and ensemble average in addition to spatial average. Application of Twersky multiple two-Space Scattering formalism to space and earth related problems. **Prerequisites:** MAT 760 or consent of instructor.

MAT 765  Credits 3  
**Advanced Numerical Analysis**
Numerical solution of ordinary and partial differential equations; advanced programming techniques; experiments with the computer. **Notes:** Topics selected by instructor. Three hours lecture, two hours laboratory. **Prerequisites:** MAT 666

MAT 766  Credits 3  
**Advanced Numerical Analysis**
Numerical solution of ordinary and partial differential equations; advanced programming techniques; experiments with the computer. **Notes:** Topics selected by instructor. Three hours lecture, two hours laboratory. **Prerequisites:** MAT 666

MAT 767  Credits 3  
**Topics in Numerical Analysis**
Topics selected by the instructor. **Notes:** May be repeated for credit with the consent of the mathematics department. Except under special circumstances, total credits limited to six. **Prerequisites:** MAT 765-766

MAT 771  Credits 3  
**Applied Analysis I**
Functional analysis in Banach spaces and Hilbert spaces, with emphasis on computational applications. Theoretical topics to be selected from: linear functionals and operators, fixed point theorems, iterative methods, elementary spectral theory. Applications to be selected from: finite element methods, finite difference methods, approximation and interpolation, optimization algorithms. **Prerequisites:** Graduate standing and consent of instructor.

MAT 772  Credits 3  
**Applied Analysis II**
Functional analysis in Banach spaces and Hilbert spaces, with emphasis on computational applications. Theoretical topics to be selected from: linear functionals and operators, fixed point theorems, iterative methods, elementary spectral theory. Applications to be selected from: finite element methods, finite difference methods, approximation and interpolation, optimization algorithms. **Prerequisites:** Graduate standing and consent of instructor.

MAT 775  Credits 3  
**Calculus of Variations**
Variation of functionals, Euler-Lagrange equation, general variations, broken extremals, Weierstrass-Erdmann conditions, canonical forms, Noether's theorem, Hamilton-Jacobi equations, Legendre's condition, conjugate points, fields, E-function, sufficient conditions for extrema, Pontryagin's principle, introduction to linear and non-linear optimal control theory. **Prerequisites:** MATH 428 or 658 or consent of instructor.
MAT 777 Credits 3
Application of High-Performance Computing Methods in Science and Engineering
Application of high performance computing systems to science and engineering, models for numerically intensive problem solving, high performance numerical algorithms, FORTRAN 90 and high-performance FORTRAN. Prerequisites: Knowledge of UNIX, FORTRAN, and previous course on numerical methods. Graduate standing.

MAT 783 Credits 3
Topics in Topology
Notes: May be repeated for credit with the consent of the mathematics department. Except under special circumstances, total credits limited to six credits. Prerequisites: Consent of instructor.

MAT 789 Credits 3
Topics in Advanced Mathematics
Graduate-level course in some field of mathematics, at advanced level, depending upon the current interest of the staff and the students. Notes: May be repeated to a maximum of six credits.

MAT 790 Credits 1 – 3
Independent Study
Library work and reports on topics of mathematical interest. Notes: May be repeated for credit with the consent of the mathematics department. Except under special circumstances, total credits will be limited to six.

MAT 791 Credits 1 – 6
Thesis
Notes: May be repeated but only six credits will be applied to the student's program. Grading: S/F grading only.

MAT 792 Credits 1
Research Seminar
Oral presentation of assigned articles. Notes: May be repeated to a maximum of four credits.

MAT 793 Credits 1 – 3
Teaching Concentration Professional Paper Research

Individual research towards an applied professional paper under the direction of a faculty member. Notes: May be repeated any number of times, but no more than three credits will count towards degree requirements. Grading: S/F grading only. Prerequisites: Consent of instructor.

MAT 799 Credits 3-6
Dissertation
Research analysis and writing toward completion of dissertation and subsequent defense. A minimum of 24 dissertation credits is required for a degree program. Dissertation may be repeated but only a maximum of 36 credits may be used in students degree program. Grading: S/F grading only Prerequisites: Successful completion of qualifying examination and approval by department.

STA 750 Credits 3
Time Series Analysis
Topics include ARMA and ARIMA processes; autocorrelation and partial autocorrelation functions; spectral density and periodogram; Yule-Walker equations; model fitting, forecasting and diagnostics; state-space models and the Kalman filter; multivariate time series; use of statistical software. Prerequisites: STA 667 or consent of instructor.

STA 663 Applied Statistics for Engineers
This course, when taught by a member of the graduate faculty, may be applied to a graduate program. For listings and a course description of this 600-level course, please consult the current Undergraduate Catalog under the corresponding 400 number. Notes: The 600-level MAT and STA courses that are normally available for graduate credit are those numbered 650 or higher; the exceptions are MAT 680, which may be counted for graduate credit in an education degree program, and STA 691, STA 693, and STA 695, which may be counted for graduate credit in a biological sciences program.
Introduction to Mathematical Statistics
This course, when taught by a member of the graduate faculty, may be applied to a graduate program. For listings and a course description of this 600-level course, please consult the current Undergraduate Catalog under the corresponding 400 number. Notes: The 600-level MAT and STA courses that are normally available for graduate credit are those numbered 650 or higher; the exceptions are MAT 680, which may be counted for graduate credit in an education degree program, and STA 691, STA 693, and STA 695, which may be counted for graduate credit in a biological sciences program.

STA 669
Environmental Statistics I: Univariate Methods
This course, when taught by a member of the graduate faculty, may be applied to a graduate program. For listings and a course description of this 600-level course, please consult the current Undergraduate Catalog under the corresponding 400 number. Notes: The 600-level MAT and STA courses that are normally available for graduate credit are those numbered 650 or higher; the exceptions are MAT 680, which may be counted for graduate credit in an education degree program, and STA 691, STA 693, and STA 695, which may be counted for graduate credit in a biological sciences program.

STA 689
Advanced Statistics Topics
This course, when taught by a member of the graduate faculty, may be applied to a graduate program. For listings and a course description of this 600-level course, please consult the current Undergraduate Catalog under the corresponding 400 number. Notes: The 600-level MAT and STA courses that are normally available for graduate credit are those numbered 650 or higher; the exceptions are MAT 680, which may be counted for graduate credit in an education degree program, and STA 691, STA 693, and STA 695, which may be counted for graduate credit in a biological sciences program.

STA 690
Independent Study
This course, when taught by a member of the graduate faculty, may be applied to a graduate program. For listings and a course description of this 600-level course, please consult the current Undergraduate Catalog under the corresponding 400 number. Notes: The 600-level MAT and STA courses that are normally available for graduate credit are those numbered 650 or higher; the exceptions are MAT 680, which may be counted for graduate credit in an education degree program, and STA 691, STA 693, and STA 695, which may be counted for graduate credit in a biological sciences program. This course offered by another department may also be taken for graduate credit.

STA 691
Statistics for Scientists I
This course, when taught by a member of the graduate faculty, may be applied to a graduate program. For listings and a course description of this 600-level course, please consult the current Undergraduate Catalog under the corresponding 400 number. Notes: The 600-level MAT and STA courses that are normally available for graduate credit are those numbered 650 or higher; the exceptions are MAT 680, which may be counted for graduate credit in an education degree program, and STA 691, STA 693, and STA 695, which may be counted for graduate credit in a biological sciences program. This course offered by another department may also be taken for graduate credit.

STA 692
Statistics for Scientists II
This course, when taught by a member of the graduate faculty, may be applied to a graduate program. For listings and a course description of this 600-level course, please consult the current Undergraduate Catalog under the corresponding 400 number. Notes: The 600-level MAT and STA courses that are normally available for graduate credit are those numbered 650 or higher; the exceptions are MAT 680, which may be counted for graduate credit in an education degree program, and STA 691, STA 693, and STA 695, which may be counted for graduate credit in a biological sciences program. This course offered by another department may also be taken for graduate credit.
course offered by another department may also be taken for graduate credit.

**STA 693**
**Applied Regression Analysis**
This course, when taught by a member of the graduate faculty, may be applied to a graduate program. For listings and a course description of this 600-level course, please consult the current Undergraduate Catalog under the corresponding 400 number. **Notes:** The 600-level MAT and STA courses that are normally available for graduate credit are those numbered 650 or higher; the exceptions are MAT 680, which may be counted for graduate credit in an education degree program, and STA 691, STA 693, and STA 695, which may be counted for graduate credit in a biological sciences program. This course offered by another department may also be taken for graduate credit.

**STA 695**
**Nonparametric Statistics**
This course, when taught by a member of the graduate faculty, may be applied to a graduate program. For listings and a course description of this 600-level course, please consult the current Undergraduate Catalog under the corresponding 400 number. **Notes:** The 600-level MAT and STA courses that are normally available for graduate credit are those numbered 650 or higher; the exceptions are MAT 680, which may be counted for graduate credit in an education degree program, and STA 691, STA 693, and STA 695, which may be counted for graduate credit in a biological sciences program. This course offered by another department may also be taken for graduate credit.

**STA 713**
**Experimental Design**
Fundamental principles of analysis of variance; one-way, two-way, and higher order designs; nested designs; randomized blocks; split plot designs; Latin squares; multiple comparisons; analysis of covariance. **Prerequisites:** MATH 181 and one of the following: STAT 411, STA 663 and STA 693.

**STA 715**

**Multivariate Statistical Methods**
Multivariate techniques with emphasis on application. Topics include multivariate analysis of variance, discriminant analysis, canonical correlation and independence, principal component analysis, factor analysis, cluster analysis and analysis of repeated measurements. **Prerequisites:** MATH 181, MATH 463 and one of the following: STAT 411, STA 663, STA 691.

**STA 717**
**Credits 3**
**Environmental Statistics**
Testing for multivariate normality, data dependent transformations for multivariate normality, tests for outliers for multivariate data, multivariate control charts, exploratory data analysis of multivariate data using principal components, cluster analysis, factor analysis, and multivariate calibration problems. **Prerequisites:** MATH 181 and one of the following: STAT 411, STA 663, STA 691.

**STA 731**
**Credits 3**
**Probability Theory and Its Applications**
Topics include: set theory, limits of sets, probability space, random variables, measurability, independence, expectation, probability inequalities, convergence, laws of large numbers, central limit theorem, moment generating functions, characteristic functions, large deviation theory, martingale theory, random walk. **Prerequisites:** MAT 657

**STA 751**
**Credits 3**
**Spatial Statistics**
Stochastic process, first and second order stationarity, intrinsic hypothesis, models of spatial dependence, different forms of Kriging — Ordinary Kriging, Universal Kriging, Probability Kriging, bicubic splines, conditional simulation. **Prerequisites:** STA 667 or consent of instructor.

**STA 753**
**Credits 3**
**Bayesian Data Analysis**
This course will present methods for statistical modeling and data analysis from a Bayesian perspective. Topics include: Bayes’ Theorem, prior and posterior distributions, computational algorithms for posterior simulation, statistical software and
programming, as well as model formulation and diagnostics for linear, generalized linear, and hierarchical models. **Prerequisites:** STA 667 or equivalent, or consent of instructor.

**STA 755**  
**Credits 3**  
**Stochastic Modeling I**  
Probability theory, Markov chains in discrete and continuous time, the Poisson process, renewal theory, queueing theory, reliability theory, martingales, stationary processes, statistical inference for stochastic processes, and simulation techniques. **Prerequisites:** STA 667 or consent of instructor.

**STA 756**  
**Credits 3**  
**Stochastic Modeling II**  
Probability theory, Markov chains in discrete and continuous time, the Poisson process, renewal theory, queueing theory, reliability theory, martingales, stationary processes, statistical inference for stochastic process, and simulation techniques. **Prerequisites:** STA 755

**STA 761**  
**Credits 3**  
**Regression Analysis I**  
Fitting a straight line, matrix theory, examining residuals, selecting the "best" fit, multiple regression, non-linear regressions, multivariate normal, estimation, classification, principal components, canonical correlation, distribution of characteristic roots. **Prerequisites:** STA 667 and MAT 663, or equivalent.

**STA 762**  
**Regression Analysis II**  
Fitting a straight line, matrix theory, examining residuals, selecting the “best” fit, multiple regression, non-linear regressions, multivariate normal, estimation, classification, variance-covariance matrix, testing sets of variates, principal components, canonical correlation, distribution of characteristic roots. **Prerequisites:** STA 667 and MAT 663 or equivalent.

**STA 763**  
**Credits 3**  
**Analysis of Variance I**  
Special topics in matrix theory; noncentral chi-square, F, and t; the multivariate normal distribution; Cochran's theorem; point and interval estimation; one-, two-, three-, higher-way layouts; Latin squares, incomplete blocks and nested designs, analysis of covariance; random effects models; mixed models; randomization models. **Prerequisites:** STA 667 and MAT 663 or equivalent.

**STA 764**  
**Credits 3**  
**Analysis of Variance II**  
Special topics in matrix theory; noncentral chi-square, F, and t; the multivariate normal distribution; Cochran's theorem; point and interval estimation; one-, two-, three-, higher-way layouts; Latin squares, incomplete blocks and nested designs, analysis of covariance; random effects models; mixed models; randomization models. **Prerequisites:** STA 667 and MAT 663 or equivalent.

**STA 765**  
**Credits 3**  
**Statistical Decision Theory**  
Introduction to decision theory, decision rules, loss functions, risk functions, decision principles, utility theory, prior information and subjective probability, noninformative priors, the posterior distribution, conjugate families, predictive distribution, Bayesian estimators, generalized Bayes estimators, credible regions, hypothesis testing, admissibility of Bayes rules, robustness of Bayes rules, minimax analysis, invariance, Bayesian sequential analysis. **Prerequisites:** STA 667 or consent of instructor.

**STA 766**  
**Credits 3**  
**Mathematical Statistics I**  
Basic probability theory, conditional probability, independence, random variables, probability distribution functions, distribution functions, transformations, function of random variables, expectations, moment generating functions, discrete and continuous distributions, exponential family, joint distribution, marginal distribution, modes of convergence, limiting distribution, random sample, sampling distribution, principle of data reduction. **Prerequisites:** STA 667 or consent of instructor.

**STA 767**  
**Credits 3**  
**Mathematical Statistics II**  
Basic probability theory, conditional probability, independence, random variables, probability distribution functions, distribution functions, transformations, function of random variables, expectations, moment generating functions, discrete and continuous distributions, exponential family, joint distribution, marginal distribution, modes of convergence, limiting distribution, random sample, sampling distribution, principle of data reduction. **Prerequisites:** STA 667 or consent of instructor.
Mathematical Statistics II
Random sample, sampling theory, point estimation, sufficiency, likelihood, method of moment, maximum likelihood estimator, Bayes estimator, unbiasedness, optimality, decision theory, hypothesis testing, likelihood ratio tests, Bayes test, most powerful test, set estimation, evaluating interval estimators, sequential estimation, asymptotics, robustness, linear models. **Prerequisites**: STA 767

STA 789 Credits 3
Topics in Advanced Statistics
Graduate-level course in some field of statistics, depending upon the current interest of the faculty and the students. **Notes**: May be repeated to a maximum of six credits.

STA 790 Credits 1 – 3
Independent Study
Library research and reports on topics of statistical interest. **Notes**: May be repeated to a maximum of six credits with consent of the department.

STA 791 Credits 3 – 6
Thesis
**Notes**: May be repeated but only six credits applied to the student's program. **Grading**: S/F grading only.

STA 792 Credits 1
Research Seminar
Oral presentation of assigned articles. **Notes**: May be repeated to a maximum of four credits.

STA 793 Credits 1 – 3
Techniques of Statistical Consulting
Seminar series and practicum covering technical and nontechnical aspects of statistical consulting, including skills for effective communication with clients, report writing, issues in sampling and design of experiments, and other statistical tools commonly used in a consulting setting. **Notes**: May be repeated to a maximum of six credits.

STA 799 Credits 3-6
Dissertation
Research analysis and writing toward completion of dissertation and subsequent defense. A minimum of 24 dissertation credits is required for the degree program. Dissertation may be repeated but only a maximum of 36 credits may be used in students degree program. **Prerequisites**: Successful completion of qualifying examination and approval by department.
Physics & Astronomy

Chair

Lepp, Stephen
(1991), Professor; B.S., University of Minnesota; M.A., Ph.D., University of Colorado, Boulder.

Graduate Coordinator

Spight, Lon D.
(1970), Associate Professor; B.S., M.S., Colorado State University; Ph.D., University of Nevada, Reno.

Graduate Faculty

Chen, Changfeng
(1990), Professor; B.S., Ph.D., Peking University.

Cornelius, Andrew
(1999), Professor; B.S., Drake University; Ph.D., Washington University.

Farley, John W.
(1987), Professor; B.A., Harvard College; M.A., Ph.D., Columbia University.

Kwong, Victor H.
(1984), Professor; B.S., Queen's University; M.S., University of Windsor; Ph.D., University of Toronto.

Lepp, Stephen H.
(1991), Professor; B.S., University of Minnesota; M.A., Ph.D., University of Colorado, Boulder.

Nagamine, Kentaro
(2006), Associate Professor; B.S., University of Tokyo; M.A., Ph.D., Princeton University.

Pang, Tao
(1991), Professor; B.S., Fudan University; Ph.D., University of Minnesota.

Pravica, Michael
(2003), Associate Professor; B.S., Cal Tech; A.M., Ph.D., Harvard University.

Proga, Daniel
(2005), Associate Professor; M.S., Nicolaus Copernicus University; Ph.D. Nicolaus Copernicus Astronomical Center.

Rhee, George
(1993), Professor; B.A., Cambridge University; M.Sc., Leiden University; M.A., Cambridge University; Ph.D., Leiden University.

Selser, James C.
(1981), Professor; B.S., U.S. Air Force Academy; M.S., Ph.D., University of California, Davis.

Shelton, David P.
(1988), Professor; B.A., M.S., Ph.D., University of Manitoba.

Smith, Diane Pyper
(1980), Associate Professor; A.B., University of California, Berkeley; Ph.D., University of California, Santa Cruz.

Zhang, Bing
(2004), Professor; B.S., M.S., Ph.D., Peking University.

Zhao, Yusheng
(2010), Professor; B.S., M.S., Peking University; Ph.D., University of California, Berkely.

Zygelman, Bernard
(1990), Professor; B.S., Ph.D., City College of New York.
Professor Emeritus

Cloud, Stan
(1980-2005) Emeritus Professor; B.S. Stanford University; M.S., Ph.D., Duke University

Weistrop, Donna E.
(1990-2005), Emeritus Professor; B.A., Wellesley College; Ph.D., California Institute of Technology.

Zane, Len
(1973-2011), Emeritus Professor; B.S., City College of New York; Ph.D. Duke University.

The Physics Department offers M.S. and Ph.D. degrees in physics, with concentrations in three research areas: laser physics, high pressure physics (in collaboration with LLNL and LANL), and condensed matter physics. The Physics Department also offers M.S. and Ph.D. degrees in Astronomy. The astronomers make use of space telescopes such as the Hubble Space Telescope, Swift, Chandra Xray Observatory and XMM-Newton Observatory, etc. to conduct research. The department’s experimental research programs are supported by fully equipped laboratories and mechanical, electronic and glass shops. The department is well equipped with state-of-the-art computing facilities, which allow for performing virtually any modeling and computer simulation.

Programs
- Astronomy M.S.
- Astronomy Ph.D.
- Physics M.S.
- Physics Ph.D.

Astronomy M.S.

Admission Requirements

Applicants must have an undergraduate degree in Physics, Astronomy or other related area. Applicants must have a minimum grade point average (GPA) of 2.75 for all undergraduate work or a minimum 3.00 GPA for the last two years of undergraduate work.

Degree Requirements

There are two options, Thesis and Non-Thesis that may be used to receive a M.S. in Astronomy Degree. The completion requirements for each are as follows:

Completion Requirements for the Thesis Option
A minimum of 30 graduate credits is required, including a minimum of 15 credits (excluding thesis) in 700-level astronomy or physics courses and six hours of research for thesis credit. A final oral exam is required on course work and thesis. A GPA of 3.00 or better is required in all course work which is part of the degree program.

Completion Requirements for the Non-Thesis Option
A minimum of 30 graduate credits past the bachelor’s level is required, including the following:

1. A minimum of 30 graduate level semester credits in physics, astronomy or related fields (excluding thesis and graduate seminar). At least 15 credits of 700 level astronomy or physics courses. A GPA of 3.00 or better in all course work which is part of the degree program. The program must also include the following core courses:
   - AST 713 - Astrophysics I
   - AST 714 - Astrophysics II
At least two courses from the following:
   - AST 710 - Observational Astronomy Techniques
2. Satisfactory performance on an astronomy qualifying examination on graduate astronomy knowledge at the master’s level.

Astronomy Ph.D.

Admission Requirements

Applicants must have an undergraduate degree or a Masters degree in Physics, Astronomy or related area. Applicants must have a minimum GPA of 2.75 for all undergraduate work or a minimum 3.00 GPA for the last two years of undergraduate work. In addition, applicants seeking direct admission to the doctoral program without a previously earned Master of Science degree must have a score in the 65th percentile or above on the Advanced Physics portion of the GRE before admission and have a minimum GPA of 3.00 for all undergraduate work or an overall 3.25 GPA for the last two years of undergraduate work. Applicants with a Master’s degree must have an overall 3.00 GPA in their Master’s program and at least 15 credit hours of graduate-level course work in physics or astronomy with a grade of B or better. A student entering with a Master’s degree will be required to complete at least 30 additional credits, including dissertation credits, beyond the Masters.

Degree Requirements

A total of 60 graduate credits past the bachelor’s level is required, including the following:

1. A minimum of 36 graduate level semester credits in astronomy or related fields (excluding doctoral dissertation and graduate seminar), which must include the following core courses:

   - AST 721 - Astrophysics of Gaseous Nebulae and Active Galactic Nuclei
   - AST 725 - High Energy Astrophysics
   - AST 727 - Cosmology
   - AST 747 - Interstellar Medium
   - PHYS 771 - Advanced Topics in Experimental and Theoretical Physics

   Must complete both:
   - AST 713 - Astrophysics I
   - AST 714 - Astrophysics II

   One of the following four courses must be completed
   - PHYS 700 - Mathematical Physics I
   - PHYS 702 - Classical Mechanics I
   - PHYS 711 - Electromagnetic Theory I
   - PHYS 721 - Quantum Theory I

   At least three courses from:
   - AST 710 - Observational Astronomy Techniques
   - AST 721 - Astrophysics of Gaseous Nebulae and Active Galactic Nuclei
   - AST 725 - High Energy Astrophysics
   - AST 727 - Cosmology
   - AST 731 - Stellar Atmospheres: Theory, Observation, and Analysis
   - AST 747 - Interstellar Medium
   - PHYS 771 - Advanced Topics in Experimental and Theoretical Physics

Six of the 36 credits must be taken in the fourth or fifth year. Course work used to satisfy the requirements for a Master’s degree may be included. A minimum grade of B- is required in each course. An overall GPA of 3.00 or better is required in all course work which is part of the degree program. Course work taken outside the Department must have departmental approval.

2. Six credits of PHYS 796 - Graduate Seminar including three acceptable presentations by the student.

3. A minimum of 18 semester credits of PHYS 799 - Doctoral Dissertation

4. Satisfactory performance on an astronomy qualifying examination on graduate astronomy knowledge. This requirement must be fulfilled by the second year in the program.

5. A dissertation of high quality consisting of significant original research.

Notes
A student who enters the doctoral program with a Master’s degree must satisfy all of the above requirements numbered 1-6. The exact number of graduate semester credit hours past the Master’s level will depend upon the quality of the student’s preparation and the rate of progress during research. All courses used to satisfy the course work requirements (listed as 1. above) must have the approval of the Department. The number of graduate credits beyond the Master’s level must be at least 30; typically it will be more.

Physics M.S.
Admission Requirements

Applicants must have a minimum GPA of 2.75 for all undergraduate work or a 3.00 GPA for the last two years of undergraduate work. The applicant must have completed 18 semester credits of upper-division undergraduate physics.

Degree Requirements
A minimum of 30 graduate credits is required including a minimum of 15 credits (excluding thesis) in 700-level courses and six hours of research for thesis credit. A final oral exam is required on course work and thesis. A GPA of 3.00 or better is required on all course work that is part of the degree program.

Physics Ph.D.
Admission Requirements

Applicants must meet the usual admission requirements of the Master of Science program at UNLV. In addition, applicants seeking direct admission to the doctoral program without a previously earned Master of Science degree must have a score in the 65th percentile or above on the Advanced Physics portion of the GRE before admission. Applicants with a bachelor’s degree in physics must have a minimum GPA of 3.00 for all undergraduate work or a 3.25 GPA for the last two years of undergraduate work, and a minimum of 18 credits of upper-division physics. Applicants with a master’s degree in physics must have at least 15 credit hours of graduate-level course work in physics with a grade of B or better and a 3.25 GPA in the master’s program.

Degree Requirements
A total of 60 graduate credits past the bachelor’s level, including the following:
1. A minimum of 36 graduate-level semester credits in physics or related fields (excluding doctoral dissertation and graduate seminar), which must include the following core courses:
   - PHYS 711 - Electromagnetic Theory I
   - PHYS 712 - Electromagnetic Theory II
   - PHYS 721 - Quantum Theory I
   - PHYS 722 - Quantum Theory II
   - PHYS 700 - Mathematical Physics I
   - PHYS 731 - Statistical Physics I
   Six of the 36 credits must be taken in the fourth or fifth year. Course work used to satisfy the requirements for a master’s degree may be included. A minimum grade of B- is required in each course. An overall GPA of 3.00 or better is required on all course work that is part of the degree program. Course work taken outside the Physics Department must have departmental approval.

2. Six credits of PHYS 796 - Graduate Seminar, including three acceptable presentations by the student

3. A minimum of 18 semester credits of PHYS 799 - Doctoral Dissertation

4. Satisfactory performance on a written qualifying examination on advanced undergraduate physics and a satisfactory score on the GRE Advanced Physics examination. Successful candidates to the doctoral program must have satisfactory scores (generally 50 percent or better) on the GRE Advanced Physics test. Both of these requirements must be fulfilled during the first two years in the graduate program.

5. A dissertation of high quality.

**Notes**
A student who enters the doctoral program with a master’s degree must satisfy all of the above requirements numbered 1-6. The exact number of graduate semester credit hours past the master’s degree will depend upon the quality of the student’s preparation and the rate of progress during research. All courses used to satisfy the course work requirement (listed as 1 above) must have the approval of the Department. The number of graduate credits beyond the master’s level must be at least 30 and typically will be more. Each student will have a four-member advisory committee, which will carry out an annual review of the student’s progress.

**Examinations**
There are three examinations: 1) a written qualifying examination must be passed. All students entering the Ph.D. program are required to pass a written qualifying examination administered by the department before the completion of the second full year of study. 2) A satisfactory score (generally 50 percent or better) must be achieved on the GRE Advanced Physics test before completion of the second full year of study. 3) A final oral defense of the doctoral thesis must be passed.

**Dissertation**
The doctoral dissertation reports the results of significant original research, performed independently by the student, written in lucid scientific prose.

**AST 710**  
*Observational Astronomy Techniques*  
Techniques used in observational astronomy. Students plan and execute an observing program on a research grade telescope. Data reduction and analysis using standard professional software packages and procedures. **Prerequisites**: Graduate standing.

**AST 713**  

**Astrophysics I**  
Laws of physics applied to astrophysical situations.  
**Notes**: Major topics include solar physics, element synthesis, stellar evolution, end states of stars.  
**Prerequisites**: Graduate standing.

**AST 714**  
*Astrophysics II*  
Laws of physics applied to astrophysical situations.  
**Notes**: Major topics include interstellar medium, the Milky Way, active galaxies, galaxy clusters, the Big Band. **Prerequisites**: Graduate standing.

**AST 721**  
*Astrophysics of Gaseous Nebulae and Active Galactic Nuclei*  
Theory and observations used to determine the physical conditions in gaseous nebulae (H II regions, planetary nebulae, supernova remnants, etc.) and active galactic nuclei. Formation of spectra in these regions and analysis to determine temperatures, density and chemical composition. Recent observational results also discussed. **Prerequisites**: Graduate standing.

**AST 723**  
*Astrophysical Fluids*  
Physics of fluids applied to astrophysical situations. Major topics include single-fluid theory, waves, shocks, fronts, magnetohydrodynamics, and plasma physics.

**AST 725**  
*High Energy Astrophysics*  
Introduction of high energy astrophysics. Theory to understand high energy phenomena in the universe, including radiation mechanisms and various energy power sources (accretion, nuclear, spindown, magnetic). Objects include neutron stars, black holes, bursters. Brief introduction of neutrino, cosmic ray, and gravitational astrophysics.

**AST 727**  
*Cosmology*  
Classical cosmology, the isotropic universe, gravitational lensing the age and distance scales, the early universe, observational cosmology, matter in
the universe, galaxies and their evolution, active galaxies, galaxy formation and clustering, cosmic background fluctuations. **Prerequisites:** Graduate standing.

**AST 729**  
**Credits 3**  
**Galaxies**  
Observation and theoretical basis for our current understanding of galactic astronomy. Major topics include Morphology of Galaxies, the Milky Way, equilibria of collisionless systems, spiral structure, and dark matter. **Prerequisites:** Graduate standing.

**AST 731**  
**Credits 3**  
**Stellar Atmospheres: Theory, Observation, and Analysis**  
Theoretical treatment of stellar atmospheric structure and radiative transfer, state-of-the-art astrophysical analysis techniques used to derive atmospheric parameters, our current observational understanding of stellar atmospheres, special topics in stellar atmospheres (pulsation, chromospheric activity, etc.), and relevance to galactic and extragalactic astronomy. **Prerequisites:** Graduate standing.

**AST 747**  
**Credits 3**  
**Interstellar Medium**  
Physics of the interstellar medium. Overall chemical, thermal and physical state of the gas in our galaxy. Astrochemistry, cosmic rays, radiative transfer, atomic and molecular physics, thermal equilibrium, and the overall dynamics of the galaxy. **Prerequisites:** Graduate standing.

**PHYS 604**  
**Computational Techniques in Physics**  
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600 level normally requires additional work.

**PHYS 622**  
**Electricity and Magnetism**  
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600 level normally requires additional work.

**PHYS 624**  
**Mechanics**  
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600 level normally requires additional work.

**PHYS 626**  
**Physics of Solids**  
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600 level normally requires additional work.

**PHYS 631**  
**Nuclear and Elementary Particle Physics**  
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600 level normally requires additional work.

**PHYS 641**  
**Mathematical Physics I**  
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. **Notes:** Credit at the 600 level normally requires additional work.

**PHYS 642**  
**Mathematical Physics II**  
Graduate credit may be obtained for courses designated 600 or above. A full description of this
PHYS 651
Modern Scientific Instrumentation
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600 level normally requires additional work.

PHYS 661
Light and Physical Optics
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600 level normally requires additional work.

PHYS 662
Modern Optics and Photonics
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600 level normally requires additional work.

PHYS 667
Thermodynamics
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600 level normally requires additional work.

PHYS 668
Statistical Mechanics
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600 level normally requires additional work.

PHYS 681
Quantum Mechanics I
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600 level normally requires additional work.

PHYS 682
Quantum Mechanics II
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600 level normally requires additional work.

PHYS 683
Special Topics in Physics
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600 level normally requires additional work.

PHYS 685
Condensed Matter Physics
Graduate credit may be obtained for courses designated 600 or above. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. Notes: Credit at the 600 level normally requires additional work.

PHYS 700
Mathematical Physics I
Credits 3
Reviews and introduces various specific mathematical functions and techniques basic to the study of physics.

PHYS 701
Mathematical Physics II
Credits 3
Reviews and introduces various specific mathematical functions and techniques basic to the study of physics.

PHYS 702
Classical Mechanics I
Credits 3
Newtonian mechanics from an advanced point of view. Variational principles. Lagrange's and Hamilton's equations, central forces, rigid body
motion, canonical transformations, Hamilton-Jacobi theory, small oscillations.

**PHYS 703**  
**Classical Mechanics II**  
Credits 3
Newtonian mechanics from an advanced point of view. Variational principles. Lagrange's and Hamilton's equations, central forces, rigid body motion, canonical transformations, Hamilton-Jacobi theory, small oscillations.

**PHYS 705**  
**Advanced Optical Systems**  
Credits 3
Analysis and design of complete optical systems. Light sources and detectors. Matrix methods. Characteristics and application of optical components including lenses, mirrors, fibers, filters, holographic elements, prisms, and gratings. Apertures, stops, and pupils. Fourier optics. **Prerequisites:** PHYS 461 or equivalent; graduate standing or consent of instructor.

**PHYS 707**  
**Condensed Matter Theory I**  
Credits 3
Comparison of different band structure calculation methods. Local-density approximation. Relation of structural, transport, and optical properties to electronic structure. Properties of metals, insulators and semiconductors. Quantum theory of magnetism. **Prerequisites:** PHYS 482/682, PHYS 483/683 and graduate standing.

**PHYS 708**  
**Condensed Matter Theory II**  
Credits 3

**PHYS 711**  
**Electromagnetic Theory I**  
Credits 3

**PHYS 712**  
**Electromagnetic Theory II**  
Credits 3

**PHYS 721**  
**Quantum Theory I**  
Credits 3

**PHYS 722**  
**Quantum Theory II**  
Credits 3
theory, Born approximation and other approximation methods. Dirac notation and an introduction to spin. **Prerequisites:** PHYS 482/PHYS 682 and graduate standing.

**PHYS 723 Credits 3**

**Quantum Optics**


**PHYS 724 Credits 3**

**Laser Applications: Interaction with Matter**

Laser principles. Introduction to laser spectroscopy, isotope separation, and trace element analysis. Laser induced fusion. Laser induced plasmas and their radiation. **Prerequisites:** Graduate standing or consent of instructor.

**PHYS 725 Credits 3**

**Spectroscopy**

Survey of spectroscopy, including absorption and emission spectroscopy, classical grating spectroscopy, laser spectroscopy, Raman spectroscopy, and Fourier transform spectroscopy. Intensities, sensitivity limits, and resolution. High-resolution and ultra-high-resolution spectroscopy. Photon correlation spectroscopy. Analysis of spectra. **Prerequisites:** PHYS 461/PHYS 661, PHYS 481/PHYS 681 and graduate standing.

**PHYS 726 Credits 3**

**Advanced Quantum Theory**

The Dirac equation, hole theory, second quantization, Feynman diagrams, self-energy, vacuum polarization, renormalization, QED effects in high-Z atoms, path integral methods in field theory. **Prerequisites:** PHYS 722 and graduate standing.

**PHYS 727 Credits 3**

**Advanced Topics in Semiconductor Devices I**

Topics of current interest in solid state electronic devices: physics of semiconductors, thermal and optical and electronic properties of semiconductors, bipolar junction devices, field effect devices, surface related effects, optoelectronic devices, semiconductor lasers. Applications and the design of circuits using these devices. Intended for electrical and electronic engineers, physicists, and qualified senior students in engineering and physics. **Prerequisites:** PHYS 411 and PHYS 683, or EEG 414 and EEG 420, and consent of instructor.

**PHYS 728 Credits 3**

**Applications of Group Theory in Quantum Mechanics**

Abstract group theory, theory of group representations, and direct product theory. Relationship to quantum mechanics; applications to atomic, molecular and solid state physics. Time-reversal symmetry, continuous groups, and the symmetric group. **Prerequisites:** PHYS 482/PHYS 682 and graduate standing.

**PHYS 731 Credits 3**

**Statistical Physics I**

Liouville's theorem, ensembles, Boltzmann and Gibbs methods. Non-ideal gases, cluster expansions, theory of condensation. **Prerequisites:** PHYS 467, 468 and graduate standing.

**PHYS 732 Credits 3**

**Statistical Physics II**

Quantum statistical mechanics, Fermi-Dirac and Bose-Einstein statistics. Phase transitions. Fluctuations. **Prerequisites:** PHYS 731 and graduate standing.

**PHYS 741 Credits 3**

**Atomic and Molecular Theory**

Hartree-Fock theory, many-body perturbation theory, relativistic effects, energy levels, oscillator strengths, boundcontinuum processes, Born-Oppenheimer approximation for molecules, symmetries, selection rules. **Prerequisites:** PHYS 721 and graduate standing.

**PHYS 771 Credits 3**

**Advanced Topics in Experimental and Theoretical Physics**
Consists of lectures dealing with experimental and theoretical aspects of one of the fields listed. a) Electrodynamics. b) Fluid mechanics. c) Plasma physics. d) Quantum theory. e) Nuclear physics. f) Atomic and molecular physics. g) Electron and ion physics. h) Low-temperature physics. i) Solid and liquid state. k) Cosmic rays. l) Relativity. m) Elementary particles. p) Astrophysics. r) Atmospheric Physics. s) Geophysics. t) Applied Optics. Notes: May be repeated for credit in different fields to a maximum of 12 credits. Prerequisites: Depends on particular topic, consult instructor.

PHYS 777 Credits 1 – 6
Advanced Special Problems
Special study of advanced topics not specifically covered in listed courses. Notes: May be repeated to a maximum of six credits. Prerequisites: Prior conference with instructor.

PHYS 781 Credits 1
Thesis Research
Research leading to master's level program prospectus. Notes: May be repeated but only one credit can be applied to the student's program. Grading: S/F grading only. Prerequisites: Enrollment in the M.S. Program.

PHYS 782 Credits 1
Dissertation Research
Supervised research prior to advancement to candidacy in the doctoral program. Notes: May be repeated but only two credits can be applied to the student's program. A maximum of one credit is allowed per semester. Grading: S/F grading only. Prerequisites: enrollment in the doctoral program.

PHYS 796 Credits 1
Graduate Seminar
Students required to give presentations on topics outside their Ph.D. work and to discuss the presentations. Presentations by graduate students given on a regularly scheduled basis, last about an hour, and given at the nonspecialist level. Notes: A total of three acceptable presentations in three different semesters during the six semesters of enrollment required. May be repeated to a maximum of six credits. Prerequisites: Graduate standing.

PHYS 797 Credits 3 – 6
Thesis
Notes: May be repeated but only six credits will be applied to the student's program. Grading: S/F grading only.

PHYS 799 Credits 3 – 6
Doctoral Dissertation
Doctoral dissertation. Notes: May be repeated. A minimum of 18 credits required for the degree. Prerequisites: Qualifying exam and approval by department.
Water Resources Management

Director
Charalambos Papelis
(1994), Associate Research Professor; B.S., National Technical University, Athens, Greece; M.S., Ph.D., Stanford University.

Graduate Faculty
Faculty participating in the Water Resources Management Graduate Program (WRM) are affiliated with several different colleges, departments, and centers of UNLV and the NSHE. Researchers from governmental or private agencies may also participate as adjunct faculty. A list of participating faculty can be found at the website of the WRM Graduate Program at [http://sciences.unlv.edu/wrm](http://sciences.unlv.edu/wrm).

The Water Resources Management Program is a flexible, interdisciplinary course of study leading to an M.S. degree. It is a technically and scientifically based program that blends the physical aspects of the hydrologic sciences, in a broader sense, with policy and management issues in hydroscience. People with degrees in physical, biological, or natural sciences and engineering and those with degrees in the social sciences, management, environmental studies, or related disciplines are encouraged to apply to the program. Working together, the student and faculty advising committee will design specific courses of study or thesis topics such that all students will strengthen their understanding of hydrologic sciences and water management while also developing technical skills.

The Water Resources Management Graduate Program is housed in the College of Sciences and encourages multidisciplinary study and research with participating faculty at UNLV from the colleges of Sciences, Business, Urban Affairs, Engineering, and Liberal Arts and participating faculty at the Harry Reid Center for Environmental Studies (HRC) on the UNLV campus, the Desert Research Institute (DRI), and the University of Nevada, Reno (UNR). Adjunct participating faculty may also be with the U.S. Environmental Protection Agency (EPA), the U. S. Geological Survey (USGS), Department of Energy (DOE), Las Vegas Valley Water District (LVVWD), the Bureau of Reclamation (BOR) or other governmental or private agencies.

Program
- Water Resources Management M.S.

Water Resources Management M.S.

Admission Requirements

The deadline for fall semester application is February 1. The deadline for spring semester application is October 1. Applicants to the program must hold a B.S. or B.A. degrees in the physical, natural or social sciences, business, management, or a related field.

1. A minimum overall undergraduate grade point average of 3.00.
2. Submission of an application, as well as official transcripts of all college-level course work to the Graduate College. Send the following (items 3-6) to:
   Graduate Admissions Committee
   Water Resources Management Program
   University of Nevada Las Vegas
   4505 S. Maryland Parkway, Box 454029
   Las Vegas, NV 89154-4029

   3. Copies of all transcripts sent to the Graduate College.
   4. Satisfactory scores on the Graduate Record Exam. This requirement may be waived in the case of candidates with exceptional professional experience.
   5. Three letters of recommendation from individuals competent to comment on the applicant’s promise as a graduate student.
   6. A letter of application stating the student’s interests and goals.
Degree Requirements
Because of the interdisciplinary nature of the Water Resources Management Graduate Program, students are encouraged to select courses from different departments that would strengthen their background and help them achieve their research and educational goals. Students must develop their course work program with the consent of the advisor and the student’s advisory committee. Courses from different colleges and departments may be incorporated into the student’s program of study. Students should consult the listings of individual departments.

Thesis Option
1. Course Work
   a. One required course
      • WRM 706 - Research Methods in Water Resources Management
   b. Six credits in
      Hydrologic Sciences courses required (GEOL or CEE courses)
   c. Three additional credits in
      Science, mathematics, or engineering courses required (see listing of BIO, CEE, CHEM, GEOL, MAT, MEG, PHYS, or STA courses)
   d. Nine credits in
      Management, public administration, economics, law, or political science courses required (see listing of ECO, EPS, ENV, HIS, LAW, MGT, MIS, POS, or PUA courses)
   e. Six credits of electives
      (see listing of BIO, CEE, CHEM, ECO, EPS, ENV, GEOL, HIS, LAW, MAT, MEG, MGT, MIS, PHYS, POS, PUA, or STA courses)

2. Thesis
   • WRM 798 - Thesis
     (required credits: 6)

3. Final Examination

There will be a final examination that will include a comprehensive oral examination.

4. Total semester credit hours: 33 credits

Non-thesis Option
1. Course Work
   a. One required course
      • WRM 706 - Research Methods in Water Resources Management
   b. Six credits in
      Hydrologic sciences courses required (GEOL or CEE courses)
   c. Six additional credits in
      Science, mathematics, or engineering courses required (see listing of BIO, CEE, CHEM, GEOL, MAT, MEG, PHYS, or STA courses)
   d. Twelve credits in
      Management, public administration, economics, law, or political science courses required (see listing of ECO, EPS, ENV, HIS, LAW, MGT, MIS, POS, or PUA courses)
   e. Six credits of electives
      (see listing of BIO, CEE, CHEM, ECO, EPS, ENV, GEOL, HIS, LAW, MAT, MEG, MGT, MIS, PHYS, POS, PUA, or STA courses)

2. Professional paper
   • WRM 796 - Professional Paper in WRM
     (required credits: 3)

3. Total semester credit hours: 36 credits

Notes
A minimum of 15 credit hours must be in 700-level courses for both degree options. A 3.00 grade point average is required in all course work used in the degree program.

WRM 706 Credits 3
Research Methods in Water Resources Management
Discussion of the processes of scientific research and research design as applied to modern water resources management. Includes scientific approaches to field and laboratory research, research and professional ethics, writing, and public presentation. Model thesis prospectus and grant proposals prepared.
Prerequisites: Graduate standing or consent of instructor.

WRM 790 Credits 1 – 3
Special Topics in Water Resources Management
Topics selected and published in the class schedule. Notes: May be repeated to a maximum of nine credits. Prerequisites: Consent of instructor.

WRM 791 Credits 1 – 3
Independent Study
Review of recent literature in a specialized area related to water resources. Notes: May be repeated to a maximum of four credits. Prerequisites: Consent of instructor.

WRM 796 Credits 1-6
Professional Paper in WRM
Professional paper preparation, including review of literature or similar research effort. Notes: May be repeated to a maximum of three credits. Not permitted for students pursuing the M.S. Thesis option. Prerequisites: Consent of instructor.

WRM 798 Credits 1 – 3
Thesis
Enrollment by consent of research director only. Notes: May be repeated for credit with cumulative maximum of six credits allowed toward degree program. Grading: S/F grading only.
Greenspun College of Urban Affairs

“Making a Difference” is more than a motto for the Greenspun College of Urban Affairs. It is the focus of all we do. The vibrant, complex environment in the Las Vegas Valley is the laboratory for the Greenspun College. Dedicated to using the knowledge of its disciplines to address the issues and problems in an urban environment, the faculty and students in the Greenspun College strive to make a positive difference in Las Vegas, the region, and the nation. As the College’s faculty advances their disciplines through research and teaching, they share a commitment to fostering the professional development of their students and equipping them to address the myriad of issues that confront individuals as well as organizations in an urban environment.

The college offers a myriad of graduate programs including graduate certificates in Forensic Social Work, Marriage and Family Therapy, Public Management, Nonprofit Management, and Solar and Renewable Energy. It offers Master of Arts in Communication, in Criminal Justice, and in Journalism and Media Studies, and Urban Leadership; Master of Science in Marriage and Family Therapy, and in Environmental Studies; the Master of Social Work (MSW); and the Master of Public Administration (MPA). There are two master level executive programs (a Professional Master of Arts in Criminal Justice, an Executive Master in Crisis and Emergency Management) and three Ph.D. programs in Environmental Science, Public Affairs, and Workforce Development and Organizational Leadership. These graduate programs emphasize the application of theory in professional practice to address the issues and problems of urban life.

Partnerships among the departments and with the community provide students abundant opportunities to develop professionally under the guidance of expert faculty and skilled practitioners. By bridging the gap between the community and the university, the faculty and students in the college are making a difference in thousands of lives.

Lee Bernick, Interim Dean
(2000), Professor; B.A., M.A., Ph.D., University of Oklahoma.
Communication Studies

Chair

Burkholder, Thomas R.
(1999), Associate Professor; B.S.E., M.A., Emporia State University; Ph.D., University of Kansas.

Graduate Coordinator

Emmers-Sommer, Tara M.
(2006). Professor and Associate Dean, Greenspun College of Urban Affairs; B. A., M. A., University of Wisconsin, Milwaukee; Ph.D., Ohio University.

Graduate Faculty

Conley, Donovan S.
(2004), Assistant Professor; B.A., University of Lethbridge, Alberta; M.A., Ph.D., University of Illinois.

Engstrom, Erika
(1991), Associate Professor; B.A., M.A., University of Central Florida; Ph.D., University of Florida.

Henry, David
(1998), Professor; A.B., University of California, Berkeley; M.A., University of California, Davis; Ph.D., Indiana University.

Sahlstein, Erin
(2006), Assistant Professor; B.A., Iowa State University; M.A., University of Wisconsin, Milwaukee; Ph.D., University of Iowa.

Thompson, Jacob
(2007), Director, Sanford J. Berman Debt Forum, Assistant Professor in Residence; B.A., Wayne State University; M.A., Ph.D., University of Kansas.

Valenzano III, Joseph
(2006), Assistant Professor, Faculty in Residence, Basic Course Director; B. A., Providence College; M. A., University of Maine, Orono; Ph.D., Georgia State University.

Watson, Martha
(1997), Professor; B.A., Rice University; M.A., Ph.D., University of Texas at Austin.

Professors Emeriti

Blythin, Evan
(1969-1998), Emeritus Associate Professor; A.A., Palomar Junior College; B.A., M.A., San Diego State University; Ph.D., University of Colorado.

Jensen, Richard Jay
(1992), Professor and Senior Advisor to the President; B.S., Weber State College; M.A., University of Arizona; Ph.D., Indiana University.

Nielsen, Stephen F.
(1969-1998), Emeritus Associate Professor; B.S., Ricks College; M.S., Ph.D., Southern Illinois University.

The Department of Communication Studies offers the Master of Arts degree, in Communication Studies, with emphases in interpersonal and rhetorical studies. Courses of study are designed both for students with a career orientation — in such diverse arenas as politics, education, law, public service, the ministry, and media relations — and for those who aspire to continue their education in doctoral programs.

All students are required to take four introductory courses: survey of communication studies, qualitative research methods, quantitative analysis, and theories of communication (COM 710, 711, 712, and 730). Graduate teaching assistants are required to take an additional course in college teaching in
communication in their first semester (COM 725). Yet because each student’s goals are unique, the curriculum allows flexibility in developing individual degree programs. Such development aims to balance the communication discipline’s varied traditions in theoretical, historical, and applied research, with particular attention to the changing communication culture of the twenty-first century.

Admission Requirements

In addition to the general requirements for admission to the Graduate College, the Department of Communications Studies typically requires:

1. A minimum GPA of 3.00 in the last 90 credit hours of undergraduate course work.
2. Satisfactory scores on the verbal and quantitative sections of the Graduate Record Exam.
3. At least three letters of recommendation from individuals who are competent to discuss the applicant’s intellectual ability and promise as a graduate student. Two of these letters should come from professors or college-level instructors.
4. A brief description (one or two pages long) of the applicant’s goals and expectations in pursuing graduate study in communication.
5. A sample of the applicant’s writing. This could be a paper from an undergraduate course or something similar.

Program

- Communication Studies M.A.

Communication Studies M.A.

Degree Requirements

All students enrolled in the program are required to complete core courses in their first year:

- COM 710 - Survey of Communication Studies
- COM 711 - Rhetorical-Critical Research Methods
- COM 712 - Empirical Research Methods
- COM 730 - Theories of Communication

Graduate teaching assistants are required to take an additional course in their first semester:

- COM 725 - College Teaching in Communication

Notes

Students have the choice of doing original research leading to the writing of a thesis or completing a program of course work leading to a comprehensive examination. Programs of study are designed to meet the student’s individual professional or personal objectives. Although an undergraduate degree in communication is not required for admission to the program, a student without a background in communication may be required to complete course work in addition to the minimum requirements.

Thesis Track

A student must complete a minimum of 30 credit hours of approved course work plus six hours of thesis credits. The classes may include six credits outside the Department of Communication Studies. An oral examination on the thesis is required.

Examination Track

A student must complete a minimum of 36 credit hours of approved course work. No more than six hours may be taken outside the Department of Communication Studies. Students must pass a comprehensive written examination. The examination lasts eight hours and is given over two consecutive days. A Graduate Education Portfolio is also required of exam track students (the specifics of the portfolio are outlined in the Department of Communication Studies Graduate Handbook, which is available upon request).
Scholarly Research Project Track

The Scholarly Research Paper track entails the completion of 36 credits of course work, construction of a Graduate Education Portfolio, and development of an original research project for submission to a scholarly meeting and/or scholarly journal. Students select a four-person committee: three departmental faculty, one of whom serves as chair, and one Graduate College representative. Students prepare and defend a prospectus by September 15 of the second year of their program, work primarily with the committee chair through development of the paper, and meet with the full committee by April 1 for a formal presentation and defense of the project.

General Notes

1. The Graduate Studies Coordinator will be the advisor for all entering students. Before completing 16 credit hours, the student should select a permanent advisor. The permanent advisor will work with the student through the completion of the program. The student’s advisor must approve all course work.
2. All students must submit a program of study, including all proposed course work, to the Graduate College before the completion of 16 credit hours. The student’s advisor and Graduate Studies Coordinator must approve the program and any changes to the program.
3. Acceptable course work is defined as any class in which a student receives a grade of B- or higher. Any course graded C+ or below will not be included in the candidate’s degree program.
4. A student who fails the oral examination for the thesis or the comprehensive examination will be allowed to take another examination. There must be a period of at least three months between examinations.
5. The Department of Communication Studies accepts applicants only in the fall semester of each year.

COM 603
Public Communication
This course is approved for use in graduate programs for Master of Arts candidates. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

COM 604
Principles of Persuasion
This course is approved for use in graduate programs for Master of Arts candidates. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

COM 607
Communication Between the Sexes
This course is approved for use in graduate programs for Master of Arts candidates. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

COM 613 Credits 3
Argumentation
Study of advanced argumentation theories and implementation of argumentation practice.

COM 615 Credits 3
Marital & Family Communication
This course introduces graduate students to communication processes that occur in the context of marital and family relationships. We will examine definitions of the family, the roles of family members, various types of families that comprise modern society, and a number of current issues that affect families. Students will also become more familiar with communication theory and research both at the disciplinary level but also in the particular area of family communication.

COM 634
Conflict Management
This course is approved for use in graduate programs for Master of Arts candidates. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.
COM 682  Credits 3
Security Discourse
In a globalized world the ways in which national security is discussed profoundly affects the public life of all individuals. This class examines the language, arguments and practices related to security policy, including but not limited to topics such as the rhetorics of American foreign policy, war, terrorism and nuclear arms.

COM 684  Political Communication
This course is approved for use in graduate programs for Master of Arts candidates. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

COM 706  Credits 3
Seminar in Intercultural Communication
Study of theoretical, methodological, practical and service foundations of intercultural communication. Examines complexities and implications of the relationship of culture and communication.

COM 710  Credits 3
Survey of Communication Studies
Survey of communication disciplines and their interrelationships; past, contemporary, and emerging issues; appropriate research topics, questions, methods, and style.

COM 711  Credits 3
Rhetorical-Critical Research Methods
Methods of describing, analyzing, interpreting, and judging public discourse. Study critical theory and practice. Research and write original critical essays.

COM 712  Credits 3
Empirical Research Methods
Fundamentals of scientific philosophy, research design, and data analysis; writing and critiquing research reports.

COM 725  Credits 3
College Teaching in Communication
Discussion of theory and practice in the teaching of communication in college, particularly entry-level courses. Notes Required of all graduate teaching assistants. Prerequisites Graduate standing.

COM 730  Credits 3
Theories of Communication
Exploration and explanation of communication phenomena. Survey of theoretical ideas, nature of theory in general, major communication theories and theories relevant to communication, and examines purpose of theory in communication research. Prerequisites Graduate standing.

COM 741  Credits 3
Social Movements as Rhetorical Form
Rhetorical approaches to the study of social movements, examining communicative processes and symbolic action involved in social change. Focuses on theoretical and methodological issues in movement studies as well as on rhetorical documents and practices of several social movements. Prerequisites Consent of instructor.

COM 780  Credits 3
Persuasion
Study of theories and applications of persuasion in various fields of social, political, business, religious, and educational activities.

COM 781  Credits 3
Seminar in Argumentation
Examines field of argument from its roots in classical Aristotelian rationalism to modern practical reasoning perspectives. Argumentation in interpersonal and public contexts emphasized. Prerequisites Consent of instructor.

COM 784  Credits 3
Political Communication
Study of relationship of rhetorical communication theory to political discourse. Focus on political campaigns, presidential rhetoric, and media influences.
COM 789  Credits 3
Selected Topics in Communication
Content varies with current developments in
communication theory. Notes May be repeated to a
maximum of six credits with instructor's permission.
Prerequisites Consent of instructor.

COM 793  Credits 1 – 3
Independent Study
Supervised study and practical experience in subjects
and projects determined in consultation with a faculty
member. Students wishing to take this course must
consult with the faculty member prior to registration.
Notes May be repeated to a maximum of three credits.

COM 794  Credits 3
Special Readings
Content dependent upon the instructor's interest and
expertise, as well as student interest and
requirements.

COM 797  Credits 3
Thesis
This course is approved for use in graduate programs
for Master of Arts candidates. A full description of
this course may be found in the Undergraduate
Catalog under the corresponding 400 number. Notes
May be repeated but only six credits applied to the
student's program. Grading S/F grading only.
Criminal Justice

Chair
Lieberman, Joel D.
(1997), Professor; B.A., State University of New York at Stony Brook; M.A., Ph.D., University of Arizona.

Graduate Coordinator
Lu, Hong
(1998), Professor; LL.B., Law School, Fudan University; M.A., Indiana University; Ph.D., Arizona State University.

Graduate Faculty
Hangawatte, Karu
(1984), Assistant Professor; LL.B. University of Ceylon; M.A., Ph.D., University of New York at Albany.

Hart, Timothy
(2006), Assistant Professor; B.A., University of Florida; M.A., University of Memphis, Ph.D., University of South Florida.

Kennedy, M. Alexis
(2005), Associate Professor; B.A., University of Toronto; LL.B., University of Manitoba; M.A., Ph.D., University of British Columbia.

Koetzle, Deborah
(2005), Associate Professor; B.S., M.A., California State University, San Bernardino; Ph.D., University of Cincinnati.

Madensen, Tamara D.
(2008), Assistant Professor; B.A., M.A., California State University, San Bernardino; Ph.D., University of Cincinnati.

Miethe, Terance D.
(1993), Professor; B.A., Western Washington State College; M.A., Western Washington University; Ph.D., Washington State University.

Shelden, Randall G.
(1977), Professor; B.A., California State at Los Angeles; M.A., Memphis State University; Ph.D., Southern Illinois University at Carbondale.

Sousa, William H.
(2004), Associate Professor; B.A., Stonchill College; M.S., Northeastern University; Ph.D., Rutgers University.

The Department of Criminal Justice offers a broad-based graduate program leading to the Master of Arts degree. The program addresses issues of crime and criminal justice within an analytical framework and emphasizes theory and research and their implications for social policy. The curriculum is grounded in the social and behavioral sciences and in legal approaches to crime and social control. It draws from contemporary research and theoretical developments across a spectrum of academic disciplines.

The graduate program in criminal justice offers two degree options. The Traditional Master of Arts degree is designed to prepare students for doctoral studies in the field and in related areas of the social and behavioral sciences. Those who obtain this degree may also assume teaching positions at the community college level. The Professional Master’s degree is designed to serve the needs of professionals currently working in justice-related agencies by providing the knowledge and skills to enhance their performance in current positions and/or prepare them for career advancement. Both degrees require a minimum of 36 semester hours of study. Students enrolled in the Traditional Master of Arts degree track are required to complete a scholarly thesis. Students seeking the Professional Master’s degree must pass a comprehensive examination.

Programs

- Criminal Justice Professional M.A
- Criminal Justice Traditional M.A.

Return to: School of Environmental and Public Affairs
Criminal Justice

Professional M.A.

Designed for the full-time criminal justice professional, the Professional Master’s Degree Program in Criminal Justice provides students with advanced knowledge of the nature of crime, criminal justice institutions and processes, current criminal justice policy and training in research methods, statistics, and program evaluation. The program will also be open to students seeking a terminal master’s degree and a career in the criminal justice system. Upon completion of the program, students will have furthered their understanding of crime, the criminal justice system, and be able to conduct evaluations of policies and programs within various agencies in the justice system. This program is structured so that enrolled students can complete the program in two years of part-time study (six credit hours per regular semester and six credit hours during the summer sessions).

Recognizing most full-time professionals have schedules that often preclude attendance during regular class times, the program utilizes a variety of distance education techniques, including prerecorded and compressed video, and online instruction.

Admission Requirements

1. An undergraduate degree from an institution with regional or national accreditation is required. Students are encouraged to complete some undergraduate course work related to criminal justice/ criminology, and statistics in social sciences. A minimum GPA of 2.75 for all undergraduate work and a 3.00 for the last two years of undergraduate work is required for admission to the program. The Graduate Record Examination (GRE) is not required for admission.

2. A Criminal Justice Graduate Program Application Cover Page must be completed.

3. A Statement of Purpose for pursuing the Professional Master’s Degree, addressing the student’s particular interests in the field of criminal justice and his or her professional goals, will be provided at the time of the student’s application.

4. Two letters of reference are required. It is preferred that both letters be from professors from whom the applicant took the classes. If the applicant completed the undergraduate degree work within the past five years, it is required that at least one letter be from a professor, unless the applicant can document the reasons why a letter from a former professor is difficult to obtain. If the applicant completed the undergraduate degree work more than five years ago and is currently working in a criminal justice-related field, two letters may be obtained from the applicant's direct supervisor or co-workers. References from other sources will not be reviewed.

5. The admissions process requires submitting all information and materials through the UNLV Graduate College Online Application for admission. See the Criminal Justice Department website for more details.

6. International Students. Applicants who are citizens of a country where English is not the native language must show competency in the English language. As a part of the entrance requirements, they must take the “Test as a Foreign Language” (TOEFL) and receive a minimum of 500 (written) or 213 (computerized). International applicants must also submit a completed financial statement before their application can be reviewed and should check with the Graduate College regarding application procedures.
Degree Requirements

Completion of 36 credits of graduate study at the 600 and 700 levels.

Required Courses

CRJ 700 - Proseminar in Criminal Justice
CRJ 702 - Proseminar on Research Methods
CRJ 703 - Proseminar on Statistics
CRJ 705 - Proseminar on the Administration of Justice

An additional course from either of one of the following areas:

Criminology:

CRJ 701 - Proseminar on Theory
CRJ 706 - Seminar on the Nature of Crime
CRJ 710 - Crime and Its Control in Gambling
CRJ 713 - Victimization
CRJ 714 - Theory Construction

Criminal Justice Institutions:

CRJ 704 - Proseminar on Law and Social Control
CRJ 707 - Policing
CRJ 712 - Punishment and Corrections
CRJ 708 - Seminar on Law and Legal Process
CRJ 715 - Criminal Justice Policy

An additional nine credits in elective, graduate criminal justice courses are required. A maximum of nine credits of 600-level courses is allowed.

Comprehensive Examination

All students enrolled in the Professional Master’s Degree in the Professional Master’s Degree in Criminal Justice will be required to pass a comprehensive examination. Three credits of graduate work (CRJ 796) will be awarded upon successful completion of the examination.

Criminal Justice

Traditional M.A.

The Traditional Master of Arts degree program is designed to improve a student’s understanding of the nature, causes, and consequences of crime and crime control. Based on the tradition of the liberal arts, the program emphasizes the symbiotic relationship between crime and the structure of society and the interplay between criminal justice theory and practice. These relationships are explored through course work in criminological theory, law and social control, the administration of justice, and crime and public policy. By completing the requirements for this program, students will be prepared for teaching at the community college level and doctoral study in crime and criminal justice.

Admission Requirements

1. An undergraduate degree from an institution with regional or national accreditation is required. Students are encouraged to complete some undergraduate course work related to criminal justice/criminology, and statistics in social sciences. A minimum GPA of 2.75 for all undergraduate work and a 3.00 for the last two years of undergraduate work is required for admission to the program. The Graduate Record Examination (GRE) is required for admission.

2. A Criminal Justice Graduate Program Application Cover Page must be completed.

3. A statement of purpose for pursuing the Master of Arts Degree, addressing the student’s particular interests in the field of criminal justice and his or her future academic and/or professional goals, must be provided at the time of application.

4. Two letters of recommendation are required. It is preferred that both letters be from professors from whom the applicant took the
classes. If the applicant completed the undergraduate degree work within the past five years, it is required that at least one letter be from a professor, unless the applicant can document the reasons why a letter from a former professor is difficult to obtain. If the applicant completed the undergraduate degree work more than five years ago and is currently working in a criminal justice-related field, two letters may be obtained from the applicant's direct supervisor or co-workers. References from other sources will not be reviewed.

5. The admissions process requires submitting all information and materials through the UNLV Graduate College Online Application for admission. See the Criminal Justice Department website for more details.

6. International Students. Applicants who are citizens of a country where English is not the native language must show competency in the English language. As part of the entrance requirements, they must take the “Test of English as a Foreign Language” (TOEFL) and receive a minimum score of 550 (written) or 213 (computerized). International applicants must also submit a completed financial statement before their application can be reviewed and should check with the Graduate College regarding application procedures.

Degree Requirements

Completion of 36 credits of graduate study at the 600 and 700 levels.

Required Courses

CRJ 700 - Proseminar in Criminal Justice
CRJ 701 - Proseminar on Theory
CRJ 702 - Proseminar on Research Methods
CRJ 703 - Proseminar on Statistics
CRJ 704 - Proseminar on Law and Social Control
CRJ 705 - Proseminar on the Administration of Justice

An additional six credits in elective, graduate-level criminal justice courses are required. A maximum of nine credits of 600-level course is allowed.

Graduate Study

Students may elect up to six credits of approved graduate study in other social or behavioral sciences or in graduate programs formally approved by the Department of Criminal Justice.

Thesis

All students enrolled in the Traditional Master of Arts Degree Program in Criminal Justice are required to write a thesis. The thesis will be written under the direction of a committee of three graduate faculty and chaired by a member of the faculty in Criminal Justice. One member of the thesis committee is a graduate faculty member from outside the Department of Criminal Justice. Six credits of graduate work (797) will be awarded upon successful completion of the thesis.

Course Work and Thesis

Upon completion of the course work and thesis, an oral examination related to the general field and thesis is required of all students. The examination will be administered by the student’s thesis committee and a representative from outside the department chosen by the Graduate College. The oral examination will assess 1) the student’s competency in defending the substantive, theoretical, and methodological topics covered by the thesis and 2) his or her general knowledge, including the ability to integrate topics covered by core and elective criminal justice classes and to apply core fundamentals to important issues.

Consistent Progress

Toward the degree and maintenance of a cumulative 3.00 grade point average are required for continuation in and completion of the program.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
<th>Prerequisites</th>
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| CRJ 605     | History of Criminal Justice                | This 600-level course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. | History of criminological thought. Contemporary and classical theories of crime. Attention to social, cultural, and psychological perspectives.  
Prerequisites Graduate standing in criminal justice or consent of instructor. |
| CRJ 611     | Comparative Criminal Justice Systems       | This 600-level course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. |                                                                                   |
| CRJ 628     | Women and Crime                            | This 600-level course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. |                                                                                   |
| CRJ 636     | Sociology of Law                           | This 600-level course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. |                                                                                   |
| CRJ 641     | Social Science in Law                      | This 600-level course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number. |                                                                                   |
| CRJ 700     | Proseminar in Criminal Justice             | Provides an introduction to graduate studies in Criminal Justice. Students are exposed to information regarding the main components of the criminal justices system, including: law enforcement, courts, and the correctional system. | Prerequisites Graduate standing in criminal justice.                           |
| CRJ 701     | Proseminar on Theory                       |                                                                                                 |                                                                               |
| CRJ 702     | Proseminar on Research Methods             | Methods and applications of quantitative and qualitative research. Relationships among theory, research, and social policy. Development and interpretation of research reports. Prerequisites Graduate standing in criminal justice or consent of instructor and satisfactory completion of an undergraduate course in research methods. |                                                                                   |
| CRJ 703     | Proseminar on Statistics                   | Univariate and multivariate techniques. Use of computerized statistical packages in the social and behavioral sciences. Practical applications in statistical problem-solving using primary and secondary data sources. Prerequisites Graduate standing in criminal justice or consent of instructor and satisfactory completion of an undergraduate statistics course. |                                                                                   |
| CRJ 704     | Proseminar on Law and Social Control       | Nature of law and legal institutions. Relationships between law and other forms of social control. Theory and research on the development and implementation of law. Prerequisites Graduate standing in criminal justice or consent of instructor. |                                                                                   |
| CRJ 705     | Proseminar on the Administration of Justice| Structures, functions, and operations of criminal justice organizations. Formal and informal organizational structures and their relationships to the broader social, political, and legal institutions. Prerequisites Graduate standing in criminal justice or consent of instructor. |                                                                                   |
| CRJ 706     | Seminar on the Nature of Crime             |                                                                                                 |                                                                               |
Investigation of selected theoretical perspectives and particular types of crime and criminality. Notes Specific subject matter varies by semester. May be repeated to a maximum of six credits. Prerequisites Graduate standing in criminal justice or consent of instructor.

CRJ 707 Credits 3 Policing
Police organization and subculture, occupational socialization, police community relations, occupational deviance, policy formation, and related issues discussed. Notes Specific subject matter varies by semester. Prerequisites Graduate standing in criminal justice or consent of instructor.

CRJ 708 Credits 3 Seminar on Law and Legal Process
Development and implementation of criminal law. May focus on issues related to the legislative process, the criminal courts, case law, and legal reform. Notes Specific subject matter varies by semester. May be repeated to a maximum of six credits. Prerequisites Graduate standing in criminal justice or consent of instructor.

CRJ 709 Credits 3 Delinquency and Juvenile Justice
Historical development and current practices of juvenile courts and treatment institutions. Emphasis on the relationship between delinquency theory, research, and policy formulation, with particular attention to programs of delinquency prevention. Prerequisites Graduate standing in criminal justice or consent of instructor.

CRJ 710 Credits 3 Crime and Its Control in Gambling
Analytical approach to patterns of gambling in America, nature of organized crime involvement, and development and implementation of forms of social control of organized crime in the area. Particular attention given to patterns of crime and regulatory control in Nevada gambling. Prerequisites Graduate standing in criminal justice or consent of instructor.

CRJ 711 Credits 3 Criminological Research
Correlates of crime and theory-based research on crime causation. Implications for the major theoretical perspectives. Prerequisites CRJ 701 and CRJ 702, graduate standing in criminal justice or consent of instructor.

CRJ 712 Credits 3 Punishment and Corrections
Philosophies and practices of punishment and corrections. Contemporary theory, the prison environment, work and rehabilitation programs, parole, overcrowding, capital punishment, and alternatives to imprisonment. Prerequisites Graduate standing in criminal justice or consent of instructor.

CRJ 713 Credits 3 Victimization
Problems confronted by victims of crime. The role of the victim in criminal offenses. Policy, advocacy issues, and victims' rights. Prerequisites Graduate standing in criminal justice or consent of instructor.

CRJ 714 Credits 3 Theory Construction
Types of theory and levels of theoretical analysis. Empirical, logical, and conceptual considerations in the construction of theory. Problems and prospects for theoretical integration and the development of general theory. Prerequisites CRJ 701 and CRJ 702, Graduate standing in criminal justice, consent of instructor.

CRJ 715 Credits 3 Criminal Justice Policy
Contemporary policies in criminal justice. Relationships among theory, policy, and practice. Attention to public opinion, legislative process, law enforcement administration, the courts, appellate review, issues of intergroup conflict, and civil rights. Prerequisites Graduate standing in criminal justice or consent of instructor.

CRJ 716 Credits 3 Graduate Readings in Criminal Justice
With faculty supervision, students pursue a personalized program of readings related to specific
issues in criminal justice. **Prerequisites** CRJ 701 and CRJ 702 and Graduate standing in criminal justice or consent of instructor.

**CRJ 724**  
**Credits 3**  
**Applied Research in Criminal Justice**  
Survey of research and statistical methods appropriate for evaluating criminal justice programs. Nature and role of program evaluation; impact and process assessment; presentation and interpretation of statistical results, ethics and politics of evaluation research. **Prerequisites** CRJ 701, CRJ 702, CRJ 703

**CRJ 796**  
**Credits 3**  
**Comprehensive Examination**  
As part of the requirements for the Professional Degree Program, students must pass a written comprehensive examination designed to test students' ability to synthesize a body of knowledge in criminal justice. **Prerequisites** CRJ 700, CRJ 702, CRJ 703, CRJ 705

**CRJ 797**  
**Credits 3 or 6**  
**Master's Thesis in Criminal Justice**  
Development of a research design and analysis of data relating to an issue of theoretical and empirical significance. Students expected to display the ability to integrate the elements of the core courses and related program of study. **Notes** May be repeated to a maximum of six credits. **Grading** S/F grading only. **Prerequisites** CRJ 701, CRJ 702, CRJ 703, CRJ 704, and CRJ 705 and Graduate standing in criminal justice, consent of instructor.

**CRJ 798**  
**Credits 3**  
**Applied Project in Criminal Justice**  
Research application in criminal justice or an evaluation of a specific criminal justice program. **Notes** May be repeated to a maximum of six credits. **Prerequisites** CRJ 701, CRJ 702, CRJ 703, CRJ 704, CRJ 705, and CRJ 724

**CRJ 799**  
**Credits 3 or 6**  
**Independent Study in Criminal Justice**  
Directed research on an issue of contemporary significance in criminal justice, culminating in the development of a research paper. **Notes** May be repeated to a maximum of six credits. **Prerequisites** CRJ 701 and CRJ 702 and Graduate standing in criminal justice or consent of instructor.
School of Environmental and Public Affairs

The School of Environmental and Public Affairs was created to assist the College of Urban affairs in its mission to prepare community leaders and address pressing societal issues. The School provides an umbrella for exciting, interdisciplinary research and teaching in public administration and governance, environmental science and studies, non-profit management, urban studies, and natural resources management. Our faculty’s strong record and interest in these areas offer students and practitioners a variety of possibilities in cutting-edge and relevant knowledge, research, and projects. The School does this primarily through interdisciplinary activities including policy forums and the offering of doctoral degrees in Environmental Science, Public Affairs, and Workforce Development and Organizational Leadership.

Director Christopher Stream;

Associate Professor; B.A., University of Nebraska; M.S., Ph.D., Florida State University.

Graduate Coordinators & Program Directors

Crawford, James; Director, Urban Leadership
Associate Professor; B.A. University of Colorado; M. Ed., University of Idaho; Ph.D. University of Missouri.

Maldonado-Daniels, Cecilia; Director, Workforce Development and Organizational Leadership
Associate Professor; B.S., M.S., University of Akron; Ph.D. Pennsylvania State University.

Neill, Helen; Graduate Coordinator, Public Affairs
Associate Professor and Associate Dean;
B.A. Trinity University; M.A., Ph.D., University of New Mexico

Springer, Christine; Director, Executive M.S. in Crisis and Emergency Management
B.A., University of Arizona, M.P.A., Arizona State University; Ph.D., Indiana University, School of Public and Environmental Affairs.

Stave, Krystyna; Graduate Coordinator, Environmental Studies
Associate Professor; B.S., Cornell University; M., Dartmouth; Ph.D., School of Forestry and Environmental Studies, Yale University.

Stream, Christopher; Director of the School of Environmental and Public Affairs
Associate Professor; B.A., University of Nebraska; M.S., Ph.D., Florida State University.

Word, Jessica; Director, Nonprofit Management Certificate
Assistant Professor; B.A., Queens College; M.P.A., Ph.D., Florida State University.

Graduate Faculty

Bernick, E. Lee
Professor and Interim Dean, Greenspun College of Urban Affairs; B.A., M.A., Ph.D., University of Oklahoma.

Carlton, Pat
Professor; A.B., M. Ed., University of North Carolina; M.A. Shippensburg University; Ph.D. University of North Carolina.

Crawford, James
Associate Professor; B.A. University of Colorado; M. Ed., University of Idaho; Ph.D. University of Missouri at Columbia.
Danielsen, Karen A.
   Assistant Professor; B.A. and M.C.R.P., Rutgers University; Ph.D., Virginia Polytechnic and State University.

Hall, Gene
   Professor; B.S. Castleton State College; M.S., Ph.D., Syracuse University.

Joaquin, M. Ernita
   Assistant Professor; B.A., M.P.A., University of the Philippines; Dip.HR Studies, University of Manchester; Ph.D. Northern Illinois University.

Kim, Yeonsoo
   Assistant Professor; B.A., M.A., Sung Kyun Kwan University; Ph.D., Pennsylvania State University.

Lukemeyer, Anna
   Associate Professor; B.A., Indiana University; J.D., L.L.M., Southern Methodist University; Ph.D., Syracuse University.

Maldonado-Daniels, Cecilia
   Associate Professor; B.S., M.S., University of Akron; Ph.D. Pennsylvania State University.

Neill, Helen
   Associate Professor; B.A., Trinity University; M.A., Ph.D., University of New Mexico.

Rusch, Edith
   Professor; B.S., University of Wisconsin; M.A., University of Northern Colorado; Ph.D., University of Oregon.

Springer, Christine
   B.A., University of Arizona; M.P.A., Arizona State University; Ph.D., Indiana University, School of Public and Environmental Affairs.

Stave, Krystyna;
   Associate Professor; B.S., Cornell University; M.S., Dartmouth; Ph.D., School of Forestry and Environmental Studies, Yale University.

Stream, Christopher
   Associate Professor; B.A., University of Nebraska; M.S., Ph.D., Florida State University.

Weber, Edward
   Professor; B.A., Colorado State University; M.S., Ph.D., University of Wisconsin-Madison.

Word, Jessica
   Assistant Professor; Ph.D., Florida State University

Professors Emeriti

Deacon, James E.
   (), Emeritus Professor; B.S., Midwestern University; Ph.D., University of Kansas.

Goodall, Leonard
   (1979-2000), Emeritus President and Professor; B.A., M.A., Central Missouri State University; Ph.D., University of Illinois.

Jordon, Teresa

Lowry, Phillip
   (1983-1996), Emeritus Associate Professor; B.S., University of Maryland; M.S.B.A., George Washington University; D.B.A., Ph.D., Arizona State University.

McCord, Robert
(1999-2011) Emeritus Associate Professor;  
B.A., M.A., University of Wisconsin; Ph.D.,  
University of Nevada, Las Vegas

Sutton, Richard  
(1974-2006), Emeritus Associate Professor;  
B.A., Tulane University; Ph.D., University  
of North Carolina, Chapel Hill.

Thompson, William  
(1980-2010), Emeritus Professor; B.A.,  
M.A., Michigan State University, Ph.D.,  
University of Missouri at Columbia

Tilman, Lee R.  
(1967-1997), Emeritus Professor; B.S.,  
Oregon State University; M.A., Ph.D.,  
University of Arizona.

Programs

Certificates:

- Nonprofit Management Certificate  
- Public Management Certificate  
- Solar & Renewable Energy (SRE)  
  Certificate

Masters:

- Environmental Science M.S.  
- Executive Crisis and Emergency  
  Management (ECEM) M.S.  
- Public Administration M.P.A.  
- Urban Leadership M.A.

Doctoral:

- Environmental Science Ph.D.  
- Public Affairs Ph.D.

- Workforce Development and Organizational  
  Leadership Ph.D.

Environmental Science M.S. & Ph.D.

The School of Environmental and Public Affairs  
administers an interdisciplinary program offering  
M.S. and Ph.D. degrees in Environmental Science.  
At present two fields of concentration are available:  
1) Environmental Chemistry and 2) Environmental  
Policy and Management. An Environmental Science  
Graduate Coordinating Committee appointed by the  
Dean of the Graduate School establishes policy for  
the degree program.

The program descriptions for the Environmental  
Science degrees are provided here. Students  
interested in pursuing degrees in chemistry or  
geology should refer to graduate program  
descriptions of the appropriate department in the  
College of Sciences.

Description and Objectives of the  
Program

The graduate program in Environmental Science  
fosters an understanding of interrelationships  
between disciplines in addition to requiring depth of  
study in specialized areas. It emphasizes the need to  
understand the social context and environmental  
consequences of using science and technology to  
serve human needs. We require all students to take  
two core courses: Environmental Problem Solving  
(ENV 702), and Environmental Law and Policy  
Seminar (ENV 703). Other course work in support of  
a student’s specialization generally includes courses
from several departments and student research often crosses disciplinary lines.

The general objectives of offering Ph.D. and M.S. degrees in Environmental Science at UNLV are to:

1. Promote the understanding of environmental systems, the relationship among science, environmental management and the human condition, and the effective management of that relationship.
2. Respond to local, state, regional, national and international needs for environmental professionals with advanced degrees.
3. Assist in the process of shifting toward more sustainable practices in our local community, state and throughout the world.
4. Encourage graduate students, undergraduate students, and faculty from various departments, colleges and NSHE institutions to collaborate in an effort to find new and creative solutions to environmental problems.
5. Assist in the development of expertise that will both support excellence in Environmental Science at UNLV and lead to the enhancement of disciplinary graduate programs of each department.
6. Provide opportunities and encouragement for both disciplinary and interdisciplinary student and faculty interactions that will promote team-building; undergraduate, graduate, faculty mentoring activities; community problem-solving; and enhance instructional programs at UNLV.
7. Support graduate student research with grants and contracts from extramural sources.
8. Encourage faculty and graduate student research on environmental projects developed in cooperation with the UNLV International Programs Office and institutions abroad.

Admission Requirements

Applications are reviewed twice per year: February 15 and November 15. Requirements 1-5 below must be met before applying to the program. Items 7 and 8 must be submitted directly to the School of Environmental and Public Affairs office prior to the application review dates.

1. A bachelor’s degree from an accredited college or university.
2. Minimum of three credits of calculus or three credits of statistics and at least 12 credit hours in physical and/or biological sciences with grades of B or better.
3. A GPA of at least 3.00 on a 4.00 scale is required for admission.
4. Scores at or above the 50th percentile in all three areas of the Graduate Record Exam.
5. International students must take and obtain a score of at least 550 on the TOEFL exam.
6. Application to the Graduate College, submitted using the on-line application system.
7. Three letters of recommendation from professors, employers and/or professional colleagues.

The Graduate Coordinating Committee uses the Statement of Objectives to determine whether the necessary physical and intellectual resources exist at UNLV to allow the applicant to achieve her/his objectives. The statement will be used to identify and appoint an appropriate advisor for the first year of graduate study, and make other decisions regarding admissibility.

Degree Requirements for all Environmental Science Graduate Students

Each student admitted to the Ph.D. or the M.S. degree program in Environmental Science will be appointed an initial advisor. The initial advisor will help the student design an appropriate curriculum, evaluate possible research directions or opportunities, identify an advisor, and become aware of personnel and resources available in Environmental Science at
UNLV. By the end of the first (M.S.) semester or second (Ph.D.) semester the student will select a chair of her/his Advisory Committee and, in consultation with that chair recommend membership on the Advisory Committee. The Advisory Committee and the chair are subject to approval by the Graduate Coordinating Committee. The Advisory Committee will assist the student in course selection and definition of a research topic for the thesis or dissertation. A minimum of 33 credits (of which at least 21 will be in 700-level courses) beyond the baccalaureate, including a minimum of six credits for thesis, is required for the M.S. degree. A minimum of 72 credits (of which at least 36 will be in 700-level courses) beyond the baccalaureate is required for the Ph.D. degree. Requirements for completion of each of the fields in these degree programs will frequently make it necessary for students to exceed these minimum credit requirements.

Students must make satisfactory progress each semester to remain in the program. Satisfactory progress is defined as filing an approved program before the completion of nine credits of course work, completion of the minimum required credits in the approved program per calendar year, maintenance of a GPA of at least 3.00, no grades below a C, and compliance with the Graduate Catalog. Any student whose GPA falls below 3.00 will be placed on probation and will have one semester to raise the GPA to a 3.00 or above. The program of study will be developed by the student and advisor and filed with the Graduate College. Prior to filing, the student’s graduate committee must approve the program. The program of study must be submitted by the second semester of study. Students must also fulfill the requirements specific to their field of study as described below.

Successful completion and oral defense of a dissertation is required for the Ph.D. degree. Successful completion and oral defense of a thesis is required for the M.S. degree. The student is advised to examine the specific information for each field of study for additional requirements.

**Environmental Chemistry**

**Requirements**

Students in both the M.S. and Ph.D. programs in Environmental Chemistry, will be required to complete two core courses, ENV 702 and ENV 703. In addition, they must take CHEM 791 - Graduate Seminar (minimum of six credits), elective graduate-level courses in CHE or WRM (i.e., minimum of nine credits chosen from CHEM 710, 725, 735, 750 and 765, CHEM 795 - Independent Study (maximum of four credits), and a minimum of six credits of thesis for the M.S. or 18 credits of dissertation for the Ph.D.

**Doctoral Requirements**

1. Eighteen credits of Dissertation will be required as part of the graduation requirement. Students who complete an M.S. in Chemistry or Environmental Science (Environmental Chemistry) may apply up to 24 credit hours of class work from the master’s to the Ph.D. degree program with the consent of their committee. Course selection will be based on the student’s research objectives, academic record and results of a preliminary examination. This examination will consist of the American Chemical Society Advanced Placement Examination or will be a three-part placement examination prepared by the Chemistry Department with assistance from faculty in other areas appropriate to the particular interests of the student.

2. Satisfactory performance on a written Comprehensive Examination prepared by the Chemistry Department (with collaboration from other appropriate faculty).

3. Satisfactory oral defense of the student’s dissertation proposal before the student’s dissertation committee. The dissertation advisor shall be present but non-voting.

4. Satisfactory performance on an oral final defense of the dissertation. The dissertation committee will be selected by the completion of the student’s first year and composed of:
Environmental Policy and Management

Requirements

1. Core requirements. Students in both the M.S. and Ph.D. programs in Environmental Policy and Management, will be required to take three core courses, ENV 701, ENV 702, and ENV 703. In addition, they must, by the end of the first (M.S.) or second (Ph.D.) semester, file a program of study listing courses to be completed (21 credits of the M.S. or 36 credits of the Ph.D. must be 700 level or above). The program of study is to be prepared by the student and his/her advisor and must be approved by the student’s advisory committee. The advisory committee will be selected by the completion of the student’s first (M.S.) or second (Ph.D.) semester. It will be composed of a total of four members representing appropriate expertise plus one representative from the Graduate College. Each student will be required to take ENV 701 during the first semester it is offered after the student joins the program and an advanced methods course during some subsequent semester.

2. Areas of concentration. For the M.S. degree students will design three areas of concentration, also containing a minimum of three courses each. Courses in an area of concentration do not need to have the same prefix or be from the same department. Areas of concentration should represent a subset of expertise that is relevant to the student’s program. Areas may include, but are not limited to: anthropology, biological sciences, chemistry, communication, economics, education, geology, risk analysis, history, mathematics, political science, public administration, sociology, or statistics. Areas of concentration must be approved by the student’s committee chair.

3. Minimum credit hours. Each M.S. or Ph.D. student in the Environmental Policy and Management field must complete a minimum of 12 credit hours each calendar year, and at least three each semester.

4. M.S. students. By the end of the first full year in the program, each student will choose one of four options for completing the degree (Thesis, Professional Paper, Examination and Practicum).

   a. Thesis Option: Students in the Thesis Option, in addition to requirements previously noted, must complete a minimum of 33 credits beyond the baccalaureate, including six credits of thesis, and must complete and orally defend a thesis. Each student who wishes to earn the M.S. under the thesis option must, by the end of his or her first full year in the program, have completed a thesis prospectus, approved by the Advisory Committee. Students in the Thesis Option may not count ENV 791 or ENV 792 credits towards the degree and may count no more than six credits of ENV 749 and ENV 790 combined towards the degree.

   b. Professional Paper Option: Students in the Professional Paper
Option, in addition to requirements previously noted, must complete a minimum of 33 credits beyond the baccalaureate, including six credits of professional paper research, and must complete and orally defend a professional paper. Each student who wishes to earn the M.S. under the Professional Paper Option must, by the time he or she has completed one full year in the program, have completed a professional paper prospectus, approved by the Advisory Committee. Students in the professional Paper Option may not count ENV 791 or ENV 795 credits towards the degree and may count no more than six credits of ENV 749 and ENV 790 combined towards the degree.

c. Examination Option: Students in the Examination option, in addition to requirements previously noted, must complete a minimum of 33 credits beyond the baccalaureate, including three credits of examination preparation under the direction of a graduate program chair, and must complete a written examination that will take place over a two-day period, eight hours each day. The student’s advisor will design the examination and determine the dates of completion and rubric for grading. The Advisory Committee may require an oral defense of the examination. Students in the Examination Option may not count ENV 792 or ENV 795 credits towards the degree and may count no more than six credits of ENV 749 and ENV 790 combined towards the degree.

d. Practicum Option: Students in the Practicum Option, in addition to requirements previously noted, must complete a minimum of 33 credits beyond the baccalaureate, including a minimum of six credits combined of Internship (ENV 790) and Teaching practicum (ENV 749). The Advisory Committee must approve the student’s proposed program of courses and approve a final report prepared by the student outlining the Practicum experience and explaining its relationship to the selected course of study. Students in the Practicum Option may not count ENV 791, ENV 792 or ENV 795 credits towards the degree and may count no more than nine credits of ENV 749 and ENV 790 combined towards the degree.

5. Ph.D. students in the Ph.D. program will have three additional semesters beyond completion of ENV 701 to advance to candidacy. Each student in the Ph.D. program must take a minimum of three credits of Directed Readings (ENV 797) each semester following completion of ENV 701 until he or she has successfully advanced to candidacy. A maximum of six credits of ENV 797 may count towards the 72 total credits required by the program. Each Ph.D. candidate must take a minimum of three credits of dissertation research (ENV 798) each semester until graduation. At least 12 and no more that 18 credits of ENV 798 and ENV 797 combined may be included in the 72 total credits required by the program. No more than six of these may be ENV 797; a minimum of 12 and a maximum of 18 of these may be ENV 798.

Students who complete an M.S. in the Environmental Policy and Management field may apply up to 24 credit hours of class work from the master’s to the Ph.D. degree program with the consent of their committee. Following completion of course work from the three areas selected, the Advisory Committee will administer a qualifying examination.
Students who fail the qualifying examination may be allowed to retake it one time. The student will then defend a dissertation proposal before the student’s Advisory Committee. The student’s Doctoral Advisory Committee must approve the dissertation proposal. Students are advanced to candidacy for the Ph.D. upon the completion of all course work and approval of the dissertation research proposal. Completion of the dissertation and its successful defense will complete degree requirements.

Executive Crisis and Emergency Management (ECEM) M.S.

The ECEM program is a professional degree designed to maximize the expertise of experienced professionals from numerous disciplines, levels, and regions, thereby providing the opportunity to both advance individual philosophies and to gain broad exposure to a wide variety of other techniques and methodologies to effectively address natural, intentional, and technical disasters. The degree offers enhanced professional growth for the individual and a contribution to a developing body of knowledge. The program is intended for mid- to-upper level incident response managers and policy makers from the federal, state, and local level. Private sector candidates must have strong background in incident response, or be in a position that requires significant responsibility and governmental interface in this arena.

Please note that the ECEM program is a special tuition and fee based program approved by the Board of Regents. To find the current fee structure go to the Program’s web pages at the School of Environmental and Public Affairs.

Admission Requirements

1. A Baccalaureate degree from a regionally accredited college or university.
2. A minimum grade point average of 2.75 overall for all undergraduate work.
3. A completed Graduate College application.
4. Submission of official transcripts from all colleges and universities attended.
5. A resume which should indicate professional experience.
6. Three letters of recommendation.
7. A nonrefundable admission application fee of $60. A check or money order should be made payable to Board of Regents.
8. A GRE Score of 900 or better in the verbal and quantitative sections may be required.

All the above should be submitted online through the Graduate College.

General Program Structure

The degree requires the twelve courses listed below (36 credits), taken both on-line and on campus. All students who enter the program are expected to complete the program as a cohort. Each cohort will come to campus for several in-class sessions; the remainder of the educational experience involves interaction with instructors and classmates via web-based application, e-mail, and telephone.

ECEM 711 - Crisis and Emergency Management
ECEM 712 - Science of Catastrophes
ECEM 713 - Evolution of Terrorism
ECEM 714 - Intergovernmental Affairs
ECEM 721 - Organizational Leadership
ECEM 722 - Community Preparedness
ECEM 723 - Human Considerations
ECEM 724 - Exercise Design and Response Plan
ECEM 731 - Risk Assessment, Mitigation and Communication
ECEM 732 - Prevention and Planning
ECEM 733 - Response and Recovery

Course Execution

1. Students will evaluate, develop, and implement exercises designed to test their ability to apply course content.
2. Students will be required to complete course work through the University’s Web Campus educational system.

3. Students are expected to enroll in a full three-course load each module and finish with the initial cohort.

Nonprofit Management Certificate

The School of Environmental and Public Affairs offers a Graduate Certificate in Nonprofit Management. The Certificate is designed for individuals with either a baccalaureate degree or a graduate degree who are interested in enhancing their educational background with regard to the nonprofit sector. The Certificate is designed to provide individuals the intellectual foundation to function as a manager in nonprofit organizations.

Admission Requirements

Applicants for admission to the Certificate in Nonprofit Management Program must have earned an undergraduate degree from a regionally accredited college or university. Applicants must be accepted by the Graduate College and the School of Environmental and Public Affairs.

To apply, you will need:

- Official transcripts that demonstrate a GPA sufficient to meet Graduate College requirements. (Two copies will be needed: one for the department and one to complete your application to the Graduate College)
- Two letters of recommendation from professors, employers and/or professional colleagues.
- A written essay explaining your interest in the certificate program.
- A current resume.

Deadlines

The deadline for admission application materials is:

- Fall: June 1
- Spring: Nov. 1
- Summer: March 1

Program Description

Students will be required to complete fifteen credits of graduate work and a capstone experience. Twelve of the fifteen credit hours will be comprised of
courses that can be counted as electives in the Master of Public Administration degree (the remaining three credits are earned by taking a required core course in the MPA program: PUA 708 - Seminar in Public Personnel Administration).

The Certificate program requires

- PUA 770 - Nonprofit Management and Theories of the 3rd Sector
- PUA 708 - Seminar in Public Personnel Administration

Plus two of the following three

- PUA 774 - Community Outreach and Volunteerism
- PUA 775 - Strategic Planning and Program Evaluation for Nonprofits
- PUA 776 - Development for Nonprofit Managers

Plus three one credit courses

Students must also enroll in three one credit courses relevant to the program. A list of courses offered each summer can be found at the department’s website.

Capstone Experience

Certificate program students are required to submit a final project paper that uses knowledge and skills obtained from the Certificate’s course work and applies this information to an organization of their choice. Specific guidelines for the paper may be obtained from the Nonprofit Certificate program director.

Relationship to M.P.A. Degree

Students earning the certificate may apply for admission into the Master of Public Administration degree program. If accepted, the fifteen credits earned in the certificate program may be applied to the M.P.A. Additional information about admissions to the M.P.A. can be found on the School of Environmental and Public Affairs web page http://sepa.unlv.edu/admissions/mpa_pa.html.

Public Administration M.P.A.

The Master of Public Administration degree is designed to provide the public administrator with an understanding of the governmental and economic environment in which he or she must work. In addition to serving administrators in governmental organizations, the program is appropriate for career military personnel, nonprofit organization administrators, and the private sector professionals whose responsibilities involve extensive contact with governmental agencies and public sector personnel.

Courses within the program are scheduled during the evenings and weekends to meet the needs of employed students. Graduates of the program will have an understanding of governmental structure and organizations, the essential principles of public management, and the theory and methods of research concerning public administration and the development of public policy. Graduate work in the program provides an awareness of the organizational contexts within which public sector administrators make and implement decisions, as well as training in the skills of administration and management. The M.P.A. is fully accredited by the National Association of Schools of Public Affairs and Administration (N.A.S.P.A.A.).

Admission Requirements

All applications for admission to the M.P.A. program are made to the Graduate College but are reviewed by the M.P.A. Admission’s Committee. The committee considers all training and preparation, general abilities, and previous experience.
An application form, and official transcripts of all college level work, must be submitted online to the Graduate College.

In addition, the applicant should have:

1. An earned bachelor’s degree in an acceptable field of undergraduate study from a regionally accredited college or university.
2. A GPA of at least 2.75 overall or 3.00 in the last 60 semester hours of undergraduate study.
3. Satisfactory score on either the Graduate Record Examination (GRE)—combined score of at least 900 on the verbal and quantitative sections—or a comparable score on the Graduate Management Admissions Test (GMAT). Applicants with an undergraduate GPA of 3.5 and five years of responsible administrative or professional work experience in the public or nonprofit sector need not submit GRE or GMAT scores. Applicants who have completed the department’s Graduate Certificate in Public Management with a GPA of 3.5 or higher need not submit GRE or GMAT scores. The GRE scores should be sent directly to the School of Environmental and Public Affairs.
4. At least one year of responsible administrative or management experience in a public agency or permission of the coordinator of the M.P.A. program.
5. Three letters of reference sent to the School.
6. A resumé indicating educational and professional experience sent to the School of Environmental and Public Affairs.
7. A personal statement describing how the MPA fits into the applicants professional goals.
8. An official transcript from the college or university where the applicant received a bachelor’s degree should be sent to the School of Environmental and Public Affairs and Graduate College.

Degree Requirements

The M.P.A. degree requires 36 credits of approved course work. For students without appropriate professional administrative experiences, the degree requires an internship and a total of 39 hours. All students entering the program should start with PUA 701 - Principles of Public Administration, a class designed to provide a general overview of the field. With this foundation, the student then embarks upon the rest of the program.

There are four main parts to the M.P.A. program: a core set of courses focusing on general administrative and management skills; a set of courses developing students’ analytical skills; a concentration developed through electives; and completion of a final project. Students enroll in PUA 791 - Topics in Administration to complete their final project which is taken after completing either PUA 725 or PUA 726. The final project applies analytical skills to an issue of interest to a governmental or nonprofit agency and should be completed near the end of a student’s program of study.

All electives must be approved by the Director of the M.P.A. program in a concentration area.

In selecting courses to distribute over these four areas, the student will meet with an academic advisor and write a formal degree plan, which must have the approval of the M.P.A. coordinator. At least one course taken as an elective must be designated as a writing extensive.

Students must obtain a B average in order to graduate. A student can have no more than one grade less than a B-. It is assumed that students working full time and taking courses on a part-time basis can complete the M.P.A. program in two and one-half years of study.

Core Public Administration Courses - Total Credits: 12

- PUA 701 - Principles of Public Administration
- PUA 703 - Seminar In Organization Theory
• PUA 704 - Seminar in Fiscal Administration
• PUA 708 - Seminar in Public Personnel Administration

Analytic Skills (required) - Total Credits: 9

• PUA 721 - Quantitative Methods for Public Administration
• PUA 723 - Research Design for Public Administration
• PUA 725 - Policy Analysis and Program Evaluation
  or
• PUA 726 - Policy Analysis

Electives - Total Credits: 9

Applied Analytical Project

• PUA 791 - Topics in Administration

Internship

• PUA 709 - Internship Program in Public Administration
  (required of students without appropriate professional public administrative experience)

M.P.A. with Non-Profit Management Concentration

Students interested in the Nonprofit concentration enroll in all of the courses listed in the Certificate program.

Public Affairs Ph.D.

The Ph. D. in Public Affairs is an interdisciplinary degree drawing upon the faculty throughout the college. The Mission of the Ph.D. in Public Affairs is to serve as the nexus between the academic community and the world of service and practice in the private, non-profit, and public sectors.

The degree will prepare individuals to study issues facing society in the context of public, private, and nonprofit organizations and institutions. Students entering the program will have the ability to follow two career paths: 1) to conduct research, consult, and serve as analysts within and to organizations; or 2) to enter the academic world at the college or university level.

The degree program is designed to promote scholarship and innovation in public affairs. The degree program will provide for significant interaction between students and faculty in learning, research, and application of expertise to public issues. In addition, the degree will prepare those students interested in entering the academic world with the knowledge, skills, and abilities to be successful teachers and researchers at the college and university level.

The program will provide students with carefully supervised teaching experience as graduate assistants; offer mentoring in research and publication through graduate seminars; and mentor them in attending professional meetings and presenting papers.

Admission Requirements

Admission to the program is done only in the fall semester. Applicants should check the School of Environmental and Public Affairs and the Graduate College web sites for the specific application deadline, http://sepa.unlv.edu/ and http://graduatecollege.unlv.edu/

Admission requirements include:

1. Completed Graduate College Application.
2. An earned master’s degree (or another advanced graduate degree, i.e. J.D.) from a regionally accredited institution with a minimum GPA of 3.50.
3. Three letters of recommendation including one letter from an individual who can evaluate the applicant’s ability to conduct graduate work at the Ph.D. level. A second letter of recommendation must come from someone who has supervised the candidate in a work setting.

4. A current resume.

5. A statement of purpose explaining the applicant’s career goals and why the doctorate would enhance the likelihood of achieving those goals. The statement should also explain why the applicant believes that he or she is qualified to conduct academic work at the advance graduate level. Finally, the statement should address the specific area of specialization the student would like to emphasize.

6. A writing sample from previous graduate work or a significant publication completed in the work setting that is directly attributable to the applicant.

7. A satisfactory GRE score (the expected minimum score is a combined 1,000 for the verbal and quantitative sections; equivalent LSAT scores would be acceptable).

8. Students may be asked to meet with a member of the admission committee for a personal interview.

Degree Requirements

A minimum of 46 credits beyond the master’s degree level is required. Credit distribution is in four areas. The four areas include:

Public Affairs Core Required Courses

The four courses include:
- PAF 700 - Public Programs
- PAF 701 - Origins and Development of Public Policy in America
- PAF 703 - Individual and Group Decision Making
- PAF 704 - Public Affairs as a Profession

Analytical Studies Core

Analytical Studies Core. Students are required to take twelve credits in research methods and analysis.

The four areas include:
- PAF 710 - Theory and Design of Research
- PAF 711 - Advanced Seminar in Quantitative Research in Public Affairs

The remaining six credits will be selected by the student with the approval of his or her advisor. Optional courses should be selected to enhance the individual’s ability to conduct research in the student’s area of interest.

Area of Specialization

Students must take twelve credits at the 700 level in a specific area of interest. Courses may be taken from more than one department. Approval of the plan of study in the area of concentration must be received before taking any course. Examples of area of specialization include: Social Policy, Public Management, Criminal Justice, Communications and Public Discourse, Human Resource Management, and Program Evaluation.

Dissertation

Students are expected to write a dissertation demonstrating both knowledge of a specific topic and the ability to conduct high quality original research. Students enroll in six credits of dissertation work each semester they are working on the dissertation. The minimum number of dissertation credits required for graduation is twelve.

Examinations

Students will take the equivalent of four exams before completing the degree. At the end of the core public affairs course work and the analytical studies
work, students will take exams in each area. A student must pass both written comprehensive exams to remain in the program. Exams are expected to be taken at after the third semester of course work.

The equivalent of a third exam will be taken by the student when the student completes and defends the dissertation prospectus. The prospectus should demonstrate a thorough knowledge of the subject area under investigation and a detailed plan on how the student will conduct her/his original research.

Students, on completion of their dissertation, will present their findings to the public (and their Examination Committee) and orally defend the research.

General Information

In the first three semesters, and the intervening summer, students in the program enroll in courses as a cohort. Except for one semester where the students take seven credits, all students must enroll in the designated six credits. Students will, in conjunction with the PAF Ph.D. Program Coordinator, obtain an advisor who will be the lead member of the student’s Doctoral Examination Committee.

Students should be aware that the Graduate College limits course work for a degree to six years. Students should obtain a copy of the Graduate College handbook for graduate students available on the Graduate College web site.

Public Management Certificate

The School of Environmental and Public Affairs offers a Graduate Certificate in Public Management. The certificate is designed for individuals with a baccalaureate degree and who are currently employed in a public (national, state, or local) or nonprofit agency. The certificate is designed to provide individuals the basic intellectual foundation necessary to function as a manager in the public sector.

The Public Management Certificate Program begins once a year in January of the Spring Semester.

Students will be required to complete fifteen hours of graduate work and complete a capstone experience. Twelve of the fifteen credit hours will be comprised of courses currently required in the Master of Public Administration degree. Students will earn an additional three credits by enrolling in three one credit courses designed to meet specific technical needs of public managers.

Admission Requirements

To be admitted to the program, you must:

- Have earned an undergraduate degree from a regionally accredited college or university.
- Be currently employed in a public agency at the national, state, or local level or at a nonprofit.
- Enter a cohort that is being sponsored by a government or nonprofit agency.
- Meet Graduate College requirements.
- Be accepted by the Graduate College and the School of Environmental and Public Affairs.
- Provide two letters of recommendation from professors, employers and/or professional colleagues.
- Submit a current resume with your application.

Application Process

- Apply to the Graduate College through the online application system. Be sure to select the certificate in Public Management (rather than the MPA degree) from the list.
- You are required to send official transcripts for all college-level work to the Graduate College.
- Note: Unofficial transcripts can be uploaded and submitted to the Graduate Coordinator.
in the School of Environmental and Public Affairs (SEPA) for initial evaluation.

- Identify the two people sending letters of recommendation on your behalf. They will, in turn, upload their letters to the Graduate College's On-line application site. To get this process started, go to the Graduate College's Application process webpage and click on the RECOMMENDATIONS link at the left side of the page immediately below the Application process links. Then make sure you check "yes" when it asks you about submitting your letters electronically (These can be submitted electronically by the letter writers).

- After the School and Graduate College obligations have been met, the file then goes to the School’s Admission Committee. The Graduate College will then send you an email confirmation with the status of the admission decision.

Note: If you complete the required 15 credits with a 3.5 GPA or higher, then you will be able to apply for the MPA program and possibly be accepted without taking the GRE the following spring.

**Deadlines**
Spring semester: Nov. 1

**Certificate Requirements: 12 Total Credits**

PUA 701 - Principles of Public Administration
PUA 703 - Seminar In Organization Theory
PUA 704 - Seminar in Fiscal Administration
PUA 708 - Seminar in Public Personnel Administration

Three credits from the following one credit topic courses:

- PUA 792 - Current Issues in Public Administration
  - Grant Writing
  - Strategic Planning
  - Lobbying Information Presentation
  - Ethics
  - Performance Measure

**Capstone Experience**
Certificate program students are required to submit a final project paper that uses knowledge and skills obtained from the course work and applies this information to an organization of their choice. Specific guidelines for the paper may be obtained from the Public Administration Graduate Coordinator.

**Relationship to M.P.A. Degree**
Students earning the certificate may apply for admission into the Master of Public Administration degree program. If accepted, the fifteen credits earned in the certificate program may be applied to the M.P.A. Additional information about admissions to the M.P.A. can be found on the School of Environmental and Public Affairs web page http://sepa.unlv.edu/admissions/mpa_pa.html.

**Solar & Renewable Energy (SRE) Certificate**

The School of Environmental and Public Affairs offers a Graduate Certificate in Solar and Renewable (SRE) Energy. The Certificate is designed for individuals already in possession of either a baccalaureate degree or a graduate degree. More specifically, the Certificate provides a specialized qualification for career professionals in the energy industry, professionals from other fields and individuals with baccalaureate degrees seeking entry into the renewable energy field, or currently enrolled graduate students seeking an additional specialization. This Certificate is designed to:
• Provide an interdisciplinary approach to SRE grounded in the three critical pillars of policy and governance, technology and physical science, and the built environment.
• Develop within students the intellectual and problem-solving foundation for a successful professional career in the SRE field.
• Improve the overall effectiveness of the solar and renewable energy sector in Nevada and the Western U.S.

**Admission Requirements**

Applicants must have earned an undergraduate degree from a regionally accredited college or university with a GPA of 2.75 or higher. Applicants must be accepted by the Graduate College and the Advisory/Admissions Committee for the SRE Certificate program.

**Program Description**

Students will be required to complete six courses comprising 18 credits of graduate work. All students must take a three course (9 credit hours) core, along with three additional courses selected from six available areas of emphasis. In order to assure exposure to a broad range of topics, concepts, and theories relevant to Solar and Renewable Energy, the general rule is that students cannot choose more than one of their three electives from any of the single “groups,” or emphasis areas listed below. All such combinations of electives must be reviewed and approved by the SRE Certificate governing Advisory Committee.

**Certificate Requirements**

**Core Requirements - 9 credits:**

- EGG 650 Introduction to Solar and Renewable Energy Utilization I (3 credits)
- ENV 702 - Environmental Problem Solving (3 credits)

**OR**

- ENV 720 - Natural Resource Valuation (3 credits)
- CEM 680 - Sustainable Construction (3 credits)

**OR**

- ABS 632 - Solar Energy Applications in Architecture (3 credits)

Plus a total of three electives from the following 6 areas of emphasis:

*Energy Policy, Economics, and Law*

- ENV 611 - Environmental Risk Management (3 credits)
- ENV 702 - Environmental Problem Solving (3 credits) *if not taken as a core requirement
- ENV 703 - Environmental Law and Policy Seminar (3 credits)
- ENV 711 - Risk Assessment and Risk Management (3 credits)
- ENV 720 - Natural Resource Valuation (3 credits) *if not taken as a core requirement
- LAW 651 - Environmental Quality Law (2-3 credits)
- ECO 707 - Environmental and Natural Resource Economics (3 credits)

*Policymaking, Society and Governance*

- PAF 701 - Origins and Development of Public Policy in America (3 credits)
- PAF 702 - Role of Government in Society (3 credits)
- PUA 725 - Policy Analysis and Program Evaluation (3 credits)
- PUA 745 - Administration in a Federal and Intergovernmental Perspective (3 credits)
- PUA 756 - Policy Implementation (3 credits)
- ENV 750 - Environmental Studies and Public Policy (3 credits)

*Built Environment*
CEM 680 - Sustainable Construction (3 credits) *if not taken as a core requirement
CEM 755 - Renewable Energy Capital Facility Projects (3 credits)
ABS 531 - Environmental Control Systems I (3 credits)
ABS 532 - Environmental Control Systems II (3 credits)
ABS 632 - Solar Energy Applications in Architecture (3 credits) *if not taken as a core requirement

Geosciences & Environmental Science
GEOL 6XX - Geothermal Systems (3 credits)
GEOL 610 - Soil Classification and Resource Management (4 credits)
GEOL 630 - Geographic Information Systems (GIS): Theory and Applications (4 credits)
GEOL 646 - Geologic Applications in Remote Sensing (3 credits)
ENV 660 - Environmental Modeling (4 credits)
ENV 680 - GIS for Environmental Management (4 credits)
ENV 7XX - Restoration Ecology (3 credits)

Electrical & Computing Engineering
ECG 6XX - Photovoltaic Devices and Systems (3 credits)
ECG 642 - Power Electronics (3 credits)
ECG 653 - Introduction to Nanotechnology (3 credits)
ECG 740 - Computer Analysis Methods for Power Systems (3 credits)
ECG 741 - Electric Power Distribution System Engineering (3 credits)
ECG 742 - Power System Stability and Control (3 credits)
ECG 757 - Electron Transport Phenomena in Solid State Devices (3 credits)

MEG 612 - Sizing of Solar Energy Systems (3 credits)
ME 619 - Advanced HVAC and Energy Conservation Systems (3 credits)
ME 705 - Conduction Heat Transfer (3 credits)
ME 707 - Radiation Heat Transfer (3 credits)
ME 711 - Advanced Thermodynamics (3 credits)
ME 714 - Computational Aspects of Solar Energy (3 credits)
ME 746 - Experimental Design and Analysis of Digital Process Control Systems (3 credits)

Note: Graduate Standing is not required for students interested in taking the following courses as part of the SRE Certificate:
ENV 611, ENV 660, ENV 680, ENV 702, ENV 703, ENV 711, ENV 720, ENV 750, PUA 725, PUA 725, PUA 745, PUA 756, PAF 701, PAF 702

Relationship to other UNLV Graduate Degrees
Students earning the Certificate may apply for admission into UNLV graduate degree programs as long as they meet the existing admissions criteria for said programs.

Urban Leadership M.A.

The primary goal of the Urban Leadership M.A. program is to prepare the leaders of education and youth services to manage, organize and reorganize schools, governmental agencies, and non-profits in response to the complex challenges of 21st century society. The Urban Leadership M.A. program strives to engage students in an interdisciplinary approach to creating knowledge and understanding that supports...
effective policy and governance of urban community organizations.

This integration helps future leaders to expand to their capacity to strategically and positively impact the communities they will serve as indicated. Successful Urban Leadership graduates will have the knowledge, skills, and dispositions to create a positive organizational culture that effectively engages members of diverse communities; identify issues and take actions focused on producing meaningful and effective change; manage data and use data-driven decision-making in strategic planning of organizational goals and priorities; ensure transparent accountability processes and procedures that foster community trust; model leadership grounded in integrity and ethical behavior; and understand the needs of children in an urban environment.

Admissions Requirements

All applications for admission to the Urban Leadership (UL) program are made to the Graduate College but are reviewed by the UL Admission’s Committee. The committee considers all training and preparation, general abilities, and previous experience. An application form, and official transcripts of all college level work, must be submitted to the Graduate College.

In addition, the applicant should have:

1. An earned bachelor’s degree in an acceptable field of undergraduate study.
2. A GPA of at least 2.75 overall or 3.00 in the last 60 semester hours of undergraduate study.
3. At least 3 years of professional experience.
   o Currently individuals who are seeking a Nevada endorsement as an administrator of a school must hold a valid elementary, middle school/junior high, secondary or special teaching license (excluding Business and Industry or special qualifications) and provide evidence of 3-years of teaching experience in K-12 schools approved by the state.
4. A minimum of two letters of nomination that provide evidence related to specific criteria established by program faculty (e.g. evidence of capacity for teamwork; reflective practice).
5. A résumé indicating educational and professional experience sent to the Program.
6. An on-site performance assessment that examines problem finding/solving, data analysis, and writing skills.
7. Individual interview
8. An official transcript from the college or university where the applicant received a bachelor's degree should be sent to the Program.

Degree Requirements

The Urban Leadership M.A. requires 39 credits of approved course work. All students entering the program should start with: Leadership Seminar I, a class designed to provide a general overview of the field. With this foundation, the student then embarks upon the rest of the program.

All students will meet with an academic advisor and complete a formal degree plan, which must have the approval of the M.P.A. coordinator.

Students must obtain a B average in order to graduate. A student can have no more than one grade less than a B-. It is assumed that students working full time and taking courses on a part-time basis can complete the UL program in two years of study.

Course of Study: 39 hours
Core Requirements: 17 credit hours
Research Requirements: 7 credit hours
Internship Requirements: 6 credit hours
Specialty Area Courses (profession specific): 6 credit hours
Capstone Requirement: 3 credit hours

Capstone Experience
Students complete a project as part of the Leading
Organizational Change course that demonstrates application of analytical skills to a community, educational, or non-profit issue. Final demonstration includes proficiency in connecting theory to practice.

**Nevada Endorsement for School Principal**

Students must pass the Praxis II exam. There are four main parts to the UL program: a core set of seminar courses focusing on leadership in urban settings, a set of courses focused on general administrative and management skills; a set of courses that engage students’ analytical skills in problems of practice; and a series of internship experiences in related organizations.

**Workforce Development and Organizational Leadership Ph.D.**

The Workforce Development and Organization Leadership, Ph.D. program is focused on developing courageous, creative leaders and researchers for the workplace of the 21st century, where practices for preparing the workforce are consistently being reinvented. Technological advances have transformed most processes in the workplace and leaders in Workforce Development, must maintain their currency in workplace trends to make sure that their organizations remain competitive. This program is available to full and part-time students, and is designed for both traditional students and working adults.

The goal of the Workforce Development and Organizational Leadership program is to promote excellence, opportunity, and leadership among professionals in workforce education and development. A strong cadre of professionals in the area of workforce development and organizational leadership will enhance the economic vitality of Nevada. The program’s target population are individuals working in a number of areas including the public sector, post-secondary education institutions, social services and non-profit industries, and the private sector. The program will prepare students for both academic and non-academic careers. The former will include teaching at colleges and universities; the latter will include public, private, and non-profit organizations and institutions. The program should strengthen the professional workforce through improving the cultural and ethnic diversity of individuals in this profession. The current program is known to be one of the most diverse programs at UNLV.

Students will enroll in six credits each semester, as well as the summer. Degree completion should take a minimum of four years, but could take up to six years.

**Admission Requirements**

All applications for admission to the Workforce Development and Organizational Leadership, Ph.D. program are made to the Graduate College but are reviewed by the Coordinators of the Workforce Development and Organizational Leadership program. The committee considers all training and preparation, general abilities, and previous experience.

An application form and official transcripts of all college level work must be submitted online to the Graduate College. Applicants must have earned a master’s degree from an accredited institution with a minimum GPA of 3.2. (Under special circumstances the department may consider applicants with lower GPAs.)

In addition to the online application, the following items must be submitted:

1. Satisfactory scores on the Graduate Record Examination (GRE) General Test. The recommended score is a total of 1,000 on the verbal and quantitative sections. Scores must be current and submitted directly from ETS.
2. Three professional and academic recommendations, stating that the applicant can do doctoral-level work.
3. A statement of purpose in which the applicant describes specific interests in and purpose for pursuing a Ph.D. in Workforce Development and Organizational
Leadership. The purpose statement should also include a description of the applicant’s background for advanced work in this field as well as academic and professional goals.

4. A professional resume which documents their related work experience in the field.

5. A writing sample in the form of a master’s thesis or original research paper of substantial length.

6. International students must also submit their TOEFL scores to the graduate school. TOEFL scores have a time limitation of two (2) years. If the student has completed his/her master’s degree in the U.S. or if the native language of his/her country of origin is English, he/she does not need to submit the TOEFL scores. Visit http://www.toefl.org for further information on the TOEFL.

Applicants that successfully meet the above criteria for admission will be invited to an interview conducted by members of the program.

Degree Requirements

The Workforce Development and Organization Leadership Ph.D. requires a minimum of 57 credit hours. Students are encouraged to take at least two classes each semester. Early in their program, students are specifically advised to take those courses in the program and research core. Faculty work with students early on to determine their cognate area and to identify the sequence of courses which will satisfy this requirement.

During the course of their degree program students must:

• Maintain an overall grade point average of 3.0 or higher for all coursework taken at the doctoral level.
• Complete a minimum of 57 credit hours of study beyond the master’s degree as stated in the candidate's program of study.
• Complete the residency requirement (Residency Requirement: Successful completion of Comprehensive Exam).
• Pass a written comprehensive examination and complete the dissertation proposal prior to advancing to candidacy and prior to registering for dissertation credits.
• Complete and successfully defend their dissertation. The candidate must follow the guidelines set forth in the Guide to Preparing & Submitting a Thesis or Dissertation available from the Graduate College.
• File the appropriate graduation forms with the Graduate College.
• File the approved dissertation following the guidelines set forth by UNLV Graduate College.

Comprehensive Exam:
The comprehensive exam entails three parts. Students will be asked to submit written documents and prepare an oral presentation on their proposed study and options for a more focused study. The student will be required to propose up to 5 research questions/studies which reflect the gaps in the literature.

Advancement to candidacy involves:
1. Completion of the program and research core and the cognate.
2. Completion of the comprehensive written and oral exams.
3. Successful completion of the proposal defense.

Gaining Approval for the Proposal

After committee approval, the student will be allowed to take the Prospectus course (WFD 796) which will allow them to move forward with their proposal. Upon completion of the prospectus course (EDW 796) and after the dissertation chair has approved the proposal, it is considered by the student's committee at a scheduled meeting of the committee. Committee members are given the proposal two weeks prior to the committee meeting. The committee will carefully examine the proposal, taking into consideration the organization and presentation, theoretical discussion, review of the literature, research questions/hypotheses, methods, and quality of writing. The committee should assist the student by making recommendations for improving the study. The committee may require the student to rewrite all or selected parts of the proposal. When the committee is satisfied with the proposal, all members sign the appropriate forms to indicate their approval. The committee must formally approve any
Dissertation: The dissertation is culminating experience for the Ph.D. in Workforce Development and Organizational Leadership. It must be of substantial length, and contain original research and interpretation on a topic in the field. Students will be required to enroll in six credits every semester they are working on the dissertation. Twelve credits of dissertation credits (including defense) are required and will count toward the degree (more credits may be taken but will not count towards the Ph.D.).

Course Requirements

Program Core (15 credits)
- WFD 780 Leadership in Workforce Education & Development
- WFD 767 Review and Analysis of Policies in WFE or PAF 701
- WFE 787 Organization Development and Change: Theories to Practice
- WFD 788 Strategic Planning and Management or PUA 775
- WFD 785 Global and Diversity Perspectives in the Workforce

Research Core (12 Credits)
- EDW 786 Critique of Research in Workforce Education
- EPY 718 Qualitative Research Methodology
- EPY 721 Descriptive/Inferential Statistics
- EDW 789 Professional Development and Research (3-6)

Research Electives (3 Credits)
One advanced statistics courses selected with the advisor/committee.

Cognate (12 Credits)
Courses taken for the cognate are selected with the advisor/committee.

Dissertation (15 Credits)
- WFD 796 Workforce Education Prospectus
- WFD 799 Doctoral Dissertation (12 credits)

Most students enroll in 2 classes at a time. They are encouraged to select a cognate early. Students will take from four to six years to complete the degree.

ENV 601 Advanced Environmental Toxicology

ENV 611 Environmental Risk Management

ENV 614 Air Pollution Science and Management

ENV 660 Environmental Modeling

ENV 680 GIS for Environmental Management

ENV 701 Environmental Science Pro Seminar
Introduction to research approaches appropriate to the environmental sciences. Includes quantitative research design. Development of literature review and thesis/dissertation prospectus. Prerequisites Graduate standing in Environmental Science program.

ENV 702 Environmental Problem Solving
Examines the dynamic, interdependent and interactive relationships between human activities and ecosystems. Evaluates opportunities to shift toward more sustainable human behavior. Prerequisites Graduate standing in environmental science or consent of instructor.

ENV 703 Environmental Law and Policy Seminar
Substantive aspects of major federal environmental laws and their concomitant regulations, as well as the policy underlying their promulgation and implementation. The present status and implementation of the National Environmental Policy
Act, the Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act, and the comprehensive Environmental Response, Compensation and Liability Act. Examines the policies underlying the existing laws, their derivative regulations, and the changes being considered by Congress for these laws. **Prerequisites** Graduate standing in environmental science or consent of instructor.

**ENV 711**  
**Credits 3**

**Risk Assessment and Risk Management**
Principles of risk management as related to exposure to environmental contaminants. Prerequisite: Consent of instructor.

**ENV 712**  
**Credits 3**

**Environmental Risk Decision Making**
Explores interface of technical information, experts, and environmental decision arenas. Major issues include decision making under uncertainty, risk perception, risk communication, and public participation in environmental risk modeling.

**ENV 720**  
**Credits 3**

**Natural Resource Valuation**
Exploration of the valuation literature including traditional, environmental, and experimental economics; physical sciences and philosophy. Methodologic and normative issues. Application and design of valuation tools. **Prerequisites** ENV or equivalent.

**ENV 725**  
**Credits 3**

**Quantitative Methods for Environmental Science**
Quantitative research tools specifically developed for environmental science including models, data collection and statistical methods, both univariate and multivariate analyses. Emphasis on methods appropriate to student theses and dissertations.

**ENV 735**  
**Credits 3**

**Risk-Benefit Assessment**
History, philosophy and methodology of risk-benefit analysis for environmental and health decision making. Explores the history of assessing costs and benefits of public projects, describes the current status of cost-effectiveness analysis in risk regulatory policy. Develops tools to estimate and compare risks, costs and benefits associated with governmental, societal and private risk decision-making.

**ENV 749**  
**Credits 3**

**Environmental Sciences Teaching Practicum**
Introduction to methods and content for environmental science instructors. Tips, methods, styles, scholarship of teaching and learning. **Prerequisites** Currently teaching undergraduate ENV course.

**ENV 750**  
**Credits 3**

**Environmental Studies and Public Policy**
Introduces the principles of public policy, science, and technology that shape environmental protection strategies in this nation and abroad. ENV 750 will act as a foundation policy course in the graduate program of the Department of Environmental Studies. **Prerequisites** Graduate standing.

**ENV 751**  
**Credits 3**

**International Environmental Policy**
Examines environmental protection strategies on the international stage. **Prerequisites** Graduate standing.

**ENV 752**  
**Credits 3**

**Advanced Seminar in Environmental Studies and Public Policy**
Explores special topics in the field of environmental policy. **Prerequisites** ENV 750 or consent of instructor.

**ENV 755**  
**Credits 3**

**Political Economy of Technology, Environment and Development**
Critically examines the roles of political and economic systems as drivers of change in the areas of technology, environment and “development”. Themes include class, conservation, gender, history, natural resources, North-South conflicts, Third World, Trade, and “sustainability” theory and
practice. Multicultural literature and cases, and multidisciplinary methods are utilized.

ENV 790 Credits 1 – 3
Internship in Environmental Science
Individual students complete appropriate internship with private, public or non-profit organization involved in environmental management. Terms to be negotiated with and approved by internship supervisor and Graduate Coordinator. Notes May be repeated to a maximum of six credits. Grading S/F

ENV 791 Credits 3
Environmental Sciences Examination Preparation
Individual preparation for Masters Degree examination. Notes May be repeated any number of times, but no more than three credits will count towards degree requirements. Prerequisites ENV 701.

ENV 792 Credits 3 – 6
Environmental Sciences Professional Paper Research
Individual research towards an applied professional paper under the direction of a faculty member. Notes May be repeated any number of times, but no more than six credits will count towards degree requirements. Prerequisites ENV 701.

ENV 793 Credits 1 – 6
Independent Study in Environmental Science
Independent study of a selected topic in environmental science. Notes May be repeated to a maximum of six credits. Prerequisites Graduate standing in environmental science or consent of instructor.

ENV 794 Credits 1 – 3
Special Topics in Environmental Science
Selected topic of current interest not covered in any existing course. Notes May be repeated for a maximum of six credits. Prerequisites Graduate standing in environmental science or consent of instructor.

ENV 795 Credits 3
Thesis

Notes May be repeated but only six credits applied to the student’s program. Grading S/F grading only.

ENV 797 Credits 3
Directed Readings
Individual research to develop doctoral dissertation prospectus under the direction of a faculty member. Notes May be repeated any number of times, but no more than six credits will count towards degree requirements. Prerequisites Admitted to ENV Ph.D. program, ENV 701.

ENV 798 Credits 3 – 6
Dissertation Research
Research analysis and writing towards completion of dissertation and subsequent defense. Notes May be repeated up to eighteen credits. Grading S/F grading only.

PUA 701 Credits 3
Principles of Public Administration
Survey of the field of public administration with an introduction to the functions of finance, personnel administration, evaluation, research and planning. Prerequisites Enrollment in the M.S.W. or M.P.A. program or consent of instructor.

PUA 703 Credits 3
Seminar In Organization Theory
Analyzes organizations as functioning social units. Emphasis on organization design, structure, processes, and external relationships.

PUA 704 Credits 3
Seminar in Fiscal Administration
Provides an overview of fiscal administration in the public sector at all levels of government. Introduces students to basic concepts and practices in two key areas: government revenues and budgeting. Prerequisites PUA 701 or consent of instructor.

PUA 708 Credits 3
Seminar in Public Personnel Administration
Includes advanced reading, discussion and research in personnel problems as seen in the public and
nonprofit sector. **Prerequisites** PUA 701 or consent of instructor.

**PUA 709**  
**Credits 1 – 6**  
**Internship Program in Public Administration**  
Graduate students have a work assignment in a public agency at the national, state, or local governmental level and make regular reports on work activities and assigned readings. **Prerequisites** PUA 712 or consent of instructor.

**PUA 710**  
**Credits 3**  
**Accounting for Public Service Managers**  
Introduces financial accounting statements from the perspective of the user. Covers principles and concepts of cost accounting from a managerial perspective. Covers financial accounting for investor owned, government, and not-for-profit organization. **Prerequisites** Facility with spreadsheet software is strongly recommended.

**PUA 711**  
**Credits 3**  
**Seminar in Administrative Behavior**  
Stresses the development of knowledge and skill in understanding the role of the administrator in the context of public agencies. Emphasis given to strategies of policy making, policy implementation and understanding the factors that bear upon the administrator acting in these capacities. **Prerequisites** PUA 708 or consent of instructor.

**PUA 712**  
**Credits 3**  
**Information Technology and the Public Sector Manager**  
Introduces computer-based information systems from the perspective of the public sector manager. Presents the theoretical aspects of organizational computing. Covers such management issues as computer security concerns, health-safety issues, privacy and confidentiality requirements, ADA requirements, training issues, and decision-making applications. **Prerequisites** PUA 701 or consent of instructor.

**PUA 713**  
**Credits 3**  
**E-Government Implications for Public Sector Organizations**  
Introduces e-government from the perspective of the public sector organization. Presents theoretical aspects of Internet based systems. Covers such management issues as security, ADA requirements privacy statements, and the provision of services on the web. Discusses organizational implications of providing services on line and the use of change management. **Prerequisites** PUA 712 or consent of instructor.

**PUA 715**  
**Credits 3**  
**Administrative Law**  
Branch of law that deals with public administration. Examines authority upon which administrative agencies operate and limits necessary to control agency action. Attention given to procedures governing rule making, administrative adjudication, and judicial review. **Prerequisites** PUA 701 or consent of instructor.

**PUA 718**  
**Credits 3**  
**Career Development and Performance Appraisal in the Public Sector**  
Investigates how and why government agencies should develop career-stage appropriate employee development programs. Students gain greater appreciation of public sector employee evaluation systems. **Prerequisites** PUA 708 or consent of instructor.

**PUA 719**  
**Credits 3**  
**Personnel Assessment and Selection**  
Covers legal and technical aspects of personnel selection. Concentrates on assessment center process for diagnosing management skills and selection in the public sector. **Prerequisites** PUA 701 or consent of instructor.

**PUA 721**  
**Credits 3**  
**Quantitative Methods for Public Administration**  
Quantitative techniques used in program design and evaluation. Coverage includes such topics as measurement, tests of significance, and measures of association. Includes descriptive and inferential statistics and forecasting methods. **Prerequisites** PUA 701 or consent of instructor.

**PUA 723**  
**Credits 3**
Research Design for Public Administration
Introduction to empirical research methods useful for analysis of public policies and programs. Includes techniques such as survey research, experiments, quasi-experiments, case studies, and qualitative methods. Students learn to understand, evaluate, and undertake basic empirical research of topics relevant to public administration and public policy. Prerequisites PUA 701 or consent of instructor.

PUA 725 Credits 3
Policy Analysis and Program Evaluation
Introduces students to the practical aspects of program evaluation, and the methodologies employed to analyze a program and to conduct an evaluation in the public and nonprofit sectors. Prerequisites PUA 721 and PUA 723 or consent of instructor.

PUA 726 Credits 3
Policy Analysis
Introduction to skills and knowledge of concepts, techniques and theories of public policy analysis. Prerequisites PUA 701, PUA 721, and PUA 723 or consent of instructor.

PUA 727 Credits 3
Theory and Practice of Public Sector Survey Research
Provides the theoretical and applied components of survey research. Students learn the basics of all elements of the survey process. Notes Students will participate in an actual survey. Prerequisites Admission to a graduate program.

PUA 735 Credits 3
Public Regulation of Gambling
Development and control of the legalized gambling industry in its many forms. Comparative analysis of regulatory models for casino, lottery, pari-mutuel, and charity gambling in Nevada and other jurisdictions. Emphasis given to procedures for insuring financial and legal integrity of gambling. Prerequisites PUA 701 or consent of instructor.

PUA 740 Credits 3
Urban Administration
Urban management approached from the viewpoint of the chief administrator. Some consideration given to the city as an organic economic, political and social institution. Emphasis on administrative exercise of leadership decision making and various functional activities. Prerequisites PUA 701 or consent of instructor.

PUA 742 Credits 3
State Government Administration
Focuses on the administration of state government functions in general, with emphasis on the state government of Nevada. Covers the economic and political environment of the state and the role of state government in the federal system. Prerequisites PUA 701 or consent of instructor.

PUA 745 Credits 3
Administration in a Federal and Intergovernmental Perspective
Provides students with understanding of the issues and problems of administering public programs in a federal system. Emphasis placed on how all levels of governments work together. Studies role of grants, mandates, and state/federal statutes on administrators.

PUA 750 Credits 3
Education Policy
Examines governmental policy and structure affecting elementary and secondary school finance, administration, and management. Reviews the history and impact of various structural and policy reforms proposed from 1950 to the present. Analyzes structure, policy, and reforms in terms of equity, effectiveness in facilitating student achievement, and other criteria.

PUA 751 Credits 3
Origins and Development of Public Policy in America
Examines the development of public policy in America especially as it is driven by citizen's needs. In addition, it examines the impact of public policy on society Prerequisites Graduate standing.
PUA 755  Credits 3  Impacts of the Gaming Industry  Comprehensive course dealing with the political, social, and economic impacts of the world-wide gambling industry. Special attention given to economic development impacts in the public sector with the establishment of various kinds of gambling.  
Prerequisites PUA 701 or consent of instructor.

PUA 756  Credits 3  Policy Implementation  Provides students an introduction to current models of implementation and the means for assessing both theory and methods; provides a bridge between the literature on policy analysis and program evaluation; offers students the opportunity to apply theoretical frameworks to practical situations.

PUA 760  Credits 3  Political Economy  Survey of the field of political economy since 1945 with emphasis on alternative theories of the role of government, value, and distribution. Focus on the ideological structure of neomarxism, neoinstitutionalism, social economics and postkeynesianism as well as the neoclassical synthesis, monetarism and public choice.  
Prerequisites Graduate standing in the M.P.A. or Economics programs or consent of instructor.

PUA 761  Credits 3  Introduction to Workforce Education  Overview of history, philosophy and areas within the workforce education field.

PUA 762  Credits 3  Needs Assessment and Evaluation  Discusses approaches to identifying performance problems in organizations and determining appropriate interventions. Emphasis/focus on assessment, evaluation, and measurement of workplace learning and performance activities.

PUA 763  Credits 3

Facilitation Skills for Workplace Learning and Performance  Introductory course providing overview of roles and functions of the training professional. Ample opportunities to practice facilitation skills. Topics include evolution of training, current paradigms in training and development, media development, and delivery techniques.

PUA 770  Credits 3  Nonprofit Management and Theories of the 3rd Sector  Examines the legal and other definitions of the 3rd sector, the sector's distinctive values, its contributions to civil society, its role vis-à-vis the government and business sectors, and current conditions in and challenges for the sector. In addition, the course will serve as an introduction the principal skills, knowledge, and abilities that are involved in the management of nonprofit organizations.

PUA 774  Credits 3  Community Outreach and Volunteerism  Provides a general overview of Volunteer Management as it relates to the field of public administration. Introductory course emphasizes nonprofit as part of the MPA program and introduces students to the basic concepts and issues surrounding the development and management of community based volunteer programs.

PUA 775  Credits 3  Strategic Planning and Program Evaluation for Nonprofits  Provides the capability to understand, plan, implement and evaluate strategies and programs so as to take advantage of opportunities and effectively manage challenges facing their organization. Teaches students to analyze how strategic planning and evaluation strategies differ from those used in the private sector. Emphasis is on management strategies that distinguish nonprofits from for-profits and public agencies and the challenges facing each.

PUA 776  Credits 3
Development for Nonprofit Managers
Introduction to fundraising for nonprofit organizations, including annual giving, major gifts, planned giving, and campaigns.

PUA 791 Credits 3 – 6
Topics in Administration
Emphasizes the intensive specialized study of a selected administrative topic. Involves advanced study, reading, and analysis culminating in a written report and designed to supplement the learning provided by the tool and theory courses. Grading S/F grading only. Prerequisites PUA 725 or PUA 726 or consent of instructor.

PUA 792 Credits 1 – 6
Current Issues in Public Administration
Examination of timely issues in the field with special attention to the needs of the practitioner. Notes May be repeated to a maximum of nine credits.

PUA 795 Credits 3
Formulating Administrative Strategies in the Public Sector

Integrating course in public administration. Covers the analysis of alternative administrative strategies. Emphasis placed on the modern role and techniques of administration. Case studies and administrative problems considered. Focus on the use of contemporary techniques in finding solutions to practical administrative problems. Prerequisites Open only to M.P.A. Students.

PUA 798 Credits 1 – 6
Research in Public Administration
Individual research projects under the direction of a faculty member. Notes May be repeated to a maximum of six credits. Prerequisites PUA 701 and PUA 723 and/or consent of instructor.

PAF 701 Credits 3
Origins and Development of Public Policy in America
Examines the development of public policy in America especially as it is driven by citizen's needs.

In addition, it examines the impact of public policy on society. Prerequisites Graduate standing.

PAF 702 Credits 3
Role of Government in Society
Evaluates the challenges of public policymaking and the moral responsibilities of public actors in a democracy. Looks at the underlying theories used to debate what government should do in society. Prerequisites Admission into a Ph.D. program or permission of instructor.

PAF 703 Credits 3
Individual and Group Decision Making
Explores how different academic disciplines view individual and group decision-making under uncertainty. Analysis of how individuals and groups make decisions, and different notions about how they should act when faced with risk and uncertainty. Prerequisites Admission into program.

PAF 704 Credits 1
Public Affairs as a Profession
This course is part of the doctoral program in public affairs and is designed for students to understand potential career opportunities with a Ph.D. in Public Affairs. Understanding the norms and expectations in the profession are addressed, and attention is given to expectations, strategies, and preparation for the job market to better understand what students can do with their Ph.D. degrees in public affairs. Prerequisites Admitted to a PhD program.

PAF 710 Credits 3
Theory and Design of Research
Designed to develop in students the role of theory in designing research applicable to issues studied in public affairs. Beginning course in the Public Affairs Ph. D. program's analytical studies sequence. Prerequisites Admission into program.

PAF 711 Credits 3
Advanced Seminar in Quantitative Research in Public Affairs
Students in this course will become familiar with the conceptual foundations and appropriate applications of major social scientific approaches to data-
gathering and analysis, with emphasis on quantitative multivariate analysis. **Prerequisites** PAF 710 or permission of instructor.

**PAF 717**
**Credits 3**
**Theory and Practice of Public Sector Survey Research**
Provides theoretical and applied components of survey research. Students learn the basics of all elements of the survey process. Students will participate in an actual survey. **Prerequisites** Admission to a graduate program.

**PAF 750**
**Credits 3**
**Education Policy**
Examines governmental policy and structure affecting elementary and secondary school finance, administration, and management. Reviews the history and impact of various structural and policy reforms proposed from 1950 to the present. Analyzes structure, policy, and reforms in terms of equity, effectiveness in facilitating student achievement, and other criteria.

**PAF 752**
**Credits 3**
**Social Policy, the Individual, and Society**
Examines moral and other dimensions of social policy; frameworks for the analysis and development of social policy; the social construction of social problems; the role of social science in informing social policy; and social policies as manifestations of a society’s values.

**PAF 795**
**Credits 3**
**Directed Readings in Public Affairs**
Student, under the supervision of a graduate faculty member, conducts additional readings on a topic previously explored in doctoral coursework. **Notes** Student may repeat the course for a total of six credits. **Prerequisites** Completion of core course work and approval of the Graduate Director.

**PAF 797**
**Credits 3-6**
**Independent Research in Public Affairs**

Student, under the supervision of a graduate faculty member, conducts research on a topic within the public affairs program areas. Completion of the research should produce a publishable manuscript. **Prerequisites** Completion of core course work and approval of the Graduate Director.
The Hank Greenspun School of Journalism and Media Studies offers the Master of Arts degree. The course of study is designed to emphasize research and theoretical exploration in various areas of journalism, and the form and content of the media. The courses are designed to help students acquire the tools to conduct graduate-level research and produce scholarship. The curriculum also caters to those with a professional orientation thus allowing students to investigate areas such as advertising, media management, public relations, television and film, the Internet and emerging media forms and their effects at the social and individual levels. The program aims to develop a deep understanding of the media to make students better consumers of the media, developers of mediated messages, critics of mediated subject matter, and experts on journalistic and mass mediated problems and issues. All students are required to take four introductory courses; Survey of Journalism and Media Studies, Qualitative Research Methods, Quantitative Research Methods, and Journalism and Media Theory (JMS 712, JMS 711, JMS 710, and JMS 730). Because each student’s goals are unique, the program is flexible in developing individual program curricula. The objective is to balance the discipline’s varied traditions in theory, history, and research with attention paid especially to the changing media landscape of the twentyfirst century.

Program

- Journalism & Media Studies M.A.

Admission Requirements
The master’s degree program is designed to meet the student’s professional and/or personal objectives. Although an undergraduate degree in journalism, broadcasting, media studies, or communication is not required for admission to the program, a student without a background in these related fields may be required to complete additional course work at the graduate or undergraduate level in order to satisfy minimum expectations of someone entering a graduate course of study.

Students should send application and college transcripts to the Graduate College. In addition, the following should be sent directly to the Graduate Coordinator of the Hank Greenspun School of Journalism and Media Studies:

1. A copy of your undergraduate transcripts (you must have a GPA of at least 3.00 in the last 90 credits of undergraduate course work).
2. Satisfactory scores on the verbal and quantitative sections of the Graduate Record Examination (GRE).
3. At least three letters of recommendation from people who are able to attest to the applicant’s ability to do graduate-level work. At least one of these letters should come from a former or current professor or college-level instructor.
4. A letter of intent detailing the applicant’s goals and expectations as a graduate student in journalism and media studies.
5. A writing sample such as a college course term paper.

Degree Requirements

The 36 credit degree program in Journalism and Media Studies consists of the following requirements:

Core: 7 credits

JMS 708 - Journalism and Media Studies Colloquium (1 credit)
JMS 709 - Research Methods in Journalism and Media Studies (3 credits)

JMS 730 - Journalism and Media Theory (3 credits)

JMS Electives: 15 credits (minimum)

Non-JMS Electives: 9 credits (maximum)

Thesis: 6 credits

Students may elect to present their theses content in traditional or non-traditional formats. The non-traditional thesis must be consistent with the overall objectives of the program and be approved by the student’s thesis committee. There content may be written or take the form of a documentary, drama, public relations campaign, film, video, exhibit, script, website, or any combination approved by the student’s thesis committee. In addition, a written research component that follows department and Graduate College formatting guidelines is required. Regardless of the option selected, the entire thesis must be approved by the Graduate College for electronic and university library access purposes. An oral examination of the thesis is required.

General Notes

1. The Graduate Coordinator is the temporary advisor for all new, incoming graduate students. Before completing 16 credit hours, the student selects a permanent advisor who mentors the student through the remainder of the program and guides them in the thesis or examination process.
2. Students are responsible for determining a program of study and submitting the proper paperwork to the Graduate College before they complete 16 credit hours of course work. The student’s advisor and Graduate Coordinator approve the program of study.
3. A passing grade in any graduate-level course is B- or better. Any course grade of C+ or lower will not be included in the student’s degree program. All grades, pass or fail, are
calculated to produce the student’s GPA. Students can repeat a course to try to better a grade. To graduate, the master’s student must have a GPA of 3.00 or higher in his or her accumulated course work.

4. A student who fails the oral examination for the thesis or the comprehensive examination is allowed to reschedule the oral examination no sooner than three months after the first attempt. Failure on the second attempt results in the student being separated from the program.

5. The Hank Greenspun School of Journalism and Media Studies matriculates graduate students only in the fall semester.


7. For additional information, check the school’s website.

JMS 601  
*The First Amendment and Society*  
This course is approved for use in graduate programs for master of Arts candidates in the Hank Greenspun School of Journalism and Media Studies. Full descriptions of these courses may be found in the Undergraduate Catalog under the corresponding 400 number.

JMS 608  
*Media Criticism*  
This course is approved for use in graduate programs for master of Arts candidates in the Hank Greenspun School of Journalism and Media Studies. Full descriptions of these courses may be found in the Undergraduate Catalog under the corresponding 400 number.

JMS 613  
*History Of Journalism*  
Credits 3  
History of American mass media from antecedents in medieval Europe to the present.

JMS 620  
*Visual Literacy*  
This course is approved for use in graduate programs for master of Arts candidates in the Hank Greenspun School of Journalism and Media Studies. Full descriptions of these courses may be found in the Undergraduate Catalog under the corresponding 400 number.

JMS 635  
*Mass Communication Research Methods*  
This course is approved for use in graduate programs for master of Arts candidates in the Hank Greenspun School of Journalism and Media Studies. Full descriptions of these courses may be found in the Undergraduate Catalog under the corresponding 400 number.

JMS 684  
*Mass Media and Political Communication*  
This course is approved for use in graduate programs for master of Arts candidates in the Hank Greenspun School of Journalism and Media Studies. Full descriptions of these courses may be found in the Undergraduate Catalog under the corresponding 400 number.

JMS 685  
*Mass Media and Society*  
This course is approved for use in graduate programs for master of Arts candidates in the Hank Greenspun School of Journalism and Media Studies. Full descriptions of these courses may be found in the Undergraduate Catalog under the corresponding 400 number.

JMS 687  
*Ethics in Mass Media*  
Credits 3  
This course is approved for use in graduate programs for Master of Arts candidates. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

JMS 708  
*Journalism and Media Studies Colloquium*  
Credits 1  
Required core class, introduction to JMS for graduate students in program. Provides an overview of the fields and interrelationships of journalism and media studies. Introduction to theories, methods, and research skills, plus contemporary JMS scholarship, use of library and other tools, development of a bibliography. **Grading** S/F grading only.
JMS 709 Credits 3
Introduction to Research Methods in Journalism and Media Studies
Introduction to methods used in JMS research, concentrating on tools students may encounter in developing literature reviews and papers, including theses or papers. Students demonstrate familiarity with methods by developing and presenting an original research paper that features the use of a methodological approach discussed in class.

JMS 710 Credits 3
Survey of Journalism and Media Studies
Introduction to graduate research writing including learning the proper technical aspects of academic writing; also surveys the fields of journalism and media studies and their interrelationships; past, present, and future issues; overview of the program. Prerequisites Graduate standing.

JMS 711 Credits 3
Qualitative Research Methods
Fundamentals of humanistic research methodologies; examines such methods as case study, ethnography, focus groups, interviews, visual methods, and other qualitative and critical research methods. Notes Application and critique of the methods. Prerequisites Graduate standing.

JMS 712 Credits 3
Quantitative Research Methods
Fundamentals of scientific approach to research examined and applied; surveys, content analysis, and other methods appropriate to the study of journalistic and media messages, processes, and effects examined. Prerequisites Graduate standing.

JMS 713 Credits 3
History of Journalism and Mass Communication
Critical analysis of historical research and scholarship in journalism and media studies including primary sources and methods. Development of a research project. Prerequisites Graduate standing.

JMS 715 Credits 3
Science and Health Communication
Investigates the application of communication theory and research to understanding processes through which information related to science, health, environment, and technology reaches the public. Emphasis on mediated communication but also considers the interrelated roles of other channels.

JMS 730 Credits 3
Journalism and Media Theory
Explores and explains various media phenomena at a theoretical level. Surveys theoretical ideas, the nature of theory, specific theories in the field and those from other fields related to the discipline. Theory evaluation and metatheoretical issues. Prerequisites Graduate standing.

JMS 733 Credits 3
First Amendment Theory
Examination of theory development on the meaning of the press and speech clauses of the First Amendment and how First Amendment theory has been reflected in legal decisions. Prerequisites Consent of instructor.

JMS 739 Credits 3
Special Problems in Media Production
Discussion and practical experience in production techniques of the mass media. Notes May be repeated to a maximum of six credits. Prerequisites Consent of instructor.

JMS 760 Credits 3
Social Influence of the Media
Analysis of mediated communication patterns and their social importance; considers both news, public affairs, and entertainment influences. Notes Emphasis may vary depending on instructor.

JMS 761 Credits 3
Journalism and Media Policy and Regulation
In-depth examination of regulation and policy aspects of broadcasting with emphasis on legal research in telecommunications.
JMS 784 Credits 3
The Media and Politics
Examines the relationship between the media and political leadership, policymaking, campaigns, and related issues. Looks at the mediation of political reality. Prerequisites Graduate standing.

JMS 789 Credits 3
Selected Topics in Journalism and Media Studies
Content varies with current developments in research in Journalism and Media Studies. Notes May be repeated to a maximum of six credits with consent of instructor and department chair. Prerequisites Consent of instructor.

JMS 794 Credits 3
Special Readings
Content dependent upon the instructor's interest and expertise, as well as student interest and requirements. Notes Course may be repeated to a maximum of six credits. Prerequisites Graduate standing.

JMS 795 Credits 1 – 4
Independent Study
Supervised study in subjects and projects determined in consultation with a faculty member. Students wishing to take this course must consult with the faculty member prior to registration. Notes May be repeated to a maximum of six credits. Prerequisites Faculty approval.

JMS 798 Credits 3
Thesis
Notes May be repeated but only six credits apply to the student's program. Grading S/F grading only. Prerequisites Graduate standing only.
Marriage & Family Therapy

Chair

Weeks, Gerald R.
(1999), Professor; B.A., M.A., East Carolina University; Ph.D., Georgia State University.

Graduate Coordinator

Fife, Stephen T.
(2003). Assistant Professor. B.S., M.S., Ph.D. Brigham Young University

Hertlein, Katherine M.
(2004). Assistant Professor. B.S., Truman State University; M.S., Purdue University Calumet; Ph.D., Virginia Polytechnic Institute.

Graduate Faculty

Blumer, Markie C.L.
(2009). Assistant Professor. B.S. M.Ed., Northern Arizona University; M.A., University of Louisiana, Monroe; Ph.D., Iowa State University.

Hertlein, Katherine M.
(2004). Assistant Professor. B.S., Truman State University; M.S., Purdue University Calumet; Ph.D., Virginia Polytechnic Institute.

Peterson, Colleen M.
(1999). Assistant Professor in Residence, Center for Individual, Couple, and Family Counseling. B.A., M.S. Brigham Young University; Ph.D., Kansas State University.

Professors Emeriti

Emerson, Shirley
(1984-2000), Emeritus Professor; B.A., Rice University; M.A., Ph.D., University of Michigan.

McBride, Martha
(1975-1999), Emeritus Professor; B.A., M.Ed., University of Florida; Ed.D., University of Georgia.

The Marriage and Family Therapy Program offers a Master of Science degree and a graduate certificate. The M.S. degree program in marriage and family therapy is the Commission on Accreditation for Marriage and Family Therapy Education (COAMFTE). Marriage and Family Therapy is a theory-based professional practice. The program emphasizes putting theory into clinical practice. This practice includes supervised clinical experiences in the on-campus Center for Individual, Couple and Family Counseling. Students complete an approved internship in the community.

Students are required to obtain 500 hours of face-to-face clinical contact through practica and internship site experiences.

The philosophy of the MFT faculty is based upon values of individual worth and dignity, personal uniqueness and value, and individual freedom to be self-determined within a context of responsibility to others. Program faculty represent a wide variety of therapy approaches and are actively involved in research related to the profession of marriage and family therapy. Students are encouraged to become informed consumers of therapy literature and research. The program also emphasizes the importance of personal growth of the student. Since personal qualities play a vital part in the determination of success as a therapist, opportunities are provided for the development of self-awareness, as well as an understanding of the effect one has upon others in interpersonal relationships.

The mission of the MFT program is to provide quality training in the theory and practice of marriage and family therapy to students primarily from the Southern Nevada region, but also those from the state, across the country, and throughout the world. We are committed to helping students become competent professionals through developing greater self-awareness, appreciating and embracing diversity,
learning the art and science of clinical practice, and promoting a sense of ethical behavior, professionalism and professional identity.

**Programs**

- Marriage & Family Therapy Certificate
- Marriage & Family Therapy M.S.

**Marriage & Family Therapy Certificate**

Under the Greenspun College of Urban Affairs, the Marriage and Family Therapy Program admits applicants to an Advanced Certificate in Marriage and Family Therapy program. Applicants who have earned a Master’s Degree in a related mental health field, but who have not completed the requirements for licensure as delineated by the State of Nevada Board of Examiners for Marriage and Family Therapists and Clinical Professional Counselors, may complete a course of study designed to meet the state’s requirements. Students are responsible to consult with the Board of Examiners regarding the courses they will need for licensure. Certificate students are recognized by The Graduate College as Marriage and Family Therapy Program students. Typically, certificate students will complete a course of study very similar to that of a master’s degree graduate student in Marriage and Family Therapy. However, additional coursework may be needed to meet state licensing requirements. Once admitted, certificate students are viewed by the department as full participants in the department.

**Admission Requirements for Certificate Programs**

This program is currently not accepting students at this time. Please contact the Marriage and Family Therapy Program in the Greenspun College of Urban Affairs for more information about other program options.

**Certificate Requirements**

To earn a certificate, students must have a grade point average of 3.00 or better in each course. Students who receive an F or more than two Cs will be separated from the program.

**Marriage & Family Therapy M.S.**

The Marriage and Family Therapy Master’s Degree Program, a 60 (professional paper) or 63 (thesis) semester hour course of study, prepares candidates for licensure as a Marriage and Family Therapist (MFT) in Nevada. MFTs work with individuals, couples, families, and groups on mental health, behavioral, personal and/or relational concerns. MFTs are employed in a wide range of settings, including public and private, for-profit and non-profit agencies, hospitals and social service agencies. They may practice independently after they are fully licensed. While there are similarities between MFT licensing requirements for most states, students are strongly encouraged to become familiar with the licensing requirements in the state(s) wherein they want to practice as an MFT. Students who are in their final semester of completing of their degrees may apply to the State of Nevada Board of Examiners for Marriage and Family Therapists and Clinical Professional Counselors for licensure as an MFT Intern. Once approved by the Board, a licensed Marriage and Family Therapy Intern is eligible to practice under the direct supervision of an AAMFT Approved Supervisor or AAMFT Supervisor Candidate. Further information on this process may be obtained by calling the board’s office. Students should be aware that the state’s post-master’s internship and the department’s pre-master’s internships are in no way related. The department does not offer, nor otherwise sanction, state internships.
Program Costs

Beginning Fall 2010 a flat rate will be charged for the program. The cost of the program for in-state students beginning is $26,500 and for out-of-state students it will be $28,500. You will be locked into this fee for the entire MFT program. In the event of a tuition increase, the MFT matriculating student will not be subject to any increase in those fees. The entire program is 7 semesters (counting the two summers of course work as semesters). Tuition for the first 6 semesters will be approximately $4,084 and $2,000 for the last semester for in-state students. While the current program charge is fixed, the per-semester costs may vary but will not exceed the total. Students will receive additional information on paying the per-semester charges.

Admission Requirements

The master’s degree program requires that applicants apply for admission to the Graduate College, as well as to the Department of Marriage and Family Therapy as Applicants must provide official transcripts of all college level coursework. In addition, applicants are required to submit Graduate Record Examination (GRE) scores on both the Verbal and Quantitative sections of the general test. A minimum score of 450 is required on each and must have been taken within five years prior to submitting admission applications. A minimum grade point average of 2.75 for all undergraduate work and a 3.00 for the last two years of undergraduate work is required.

Applicants must also make arrangements for three letters of recommendation to be sent directly to the department, along with a departmental application form, and two writings (an autobiographical writing and a response to an ethical/moral question). Potential students should visit the department website for specific application materials (http://mft.unlv.edu/index.html). Applications are accepted once a year, with a January 15 deadline. The application process also involves an extensive on-campus interview for viable candidates, with all candidates participating in interviews together. Classes begin in the Fall semester.

Degree Requirements

To earn a master’s degree, students must:

1. Have a cumulative grade point average of 3.00 or better in the program. Students who receive an F, or more than two Cs, will be separated from the program.
2. A grade of B or better is required in any practicum or internship or the course must be repeated.
3. Students have a choice of two tracks to complete their culminating experience requirement. Students electing to do the Capstone track, in which students will prepare a portfolio with either a clinical focus or research focus, are required to complete 6 credits of MFT 750 - Capstone. Students electing to do the Thesis track are required to complete 6 credits of MFT 749 - Thesis
4. Every student will be reviewed each semester to determine adequate progress and retention in the program.
5. The full time program is sequenced so that students take a certain number of courses or credits each semester, including summer. A student who does not follow the designated course sequence may lack prerequisites for their next courses, and, therefore, may need to wait for a course to be offered again in the next cycle. It is the responsibility of the student to discuss course sequencing and planned timing with their advisor. Not all courses are offered every semester or every year. There are many courses that are offered only once each calendar year. Thus, it is imperative that students take the recommended number of credits and stay in sequence in order for them to graduate in a timely manner.

Note: Non-admitted students may take up to three selected courses (see course listing for prerequisites) prior to formal admission to the program (MFT 701,
MFT 701 and MFT 763). If admitted, these courses are eligible to count toward the degree.

Degree Program

MFT 701 - Introduction to Marriage and Family Therapy
MFT 719 - Sexual Issues in Marriage and Family Therapy
MFT 720 - Counseling Across the Lifespan
MFT 725 - Diversity in Marriage and Family Therapy
MFT 731 - Substance Abuse in Marriage and Family Therapy
MFT 759 - Family Dynamics
MFT 762 - Diagnosis in Marriage and Family Therapy
MFT 763 - Family Systems Theory
MFT 764 - Principles and Practices of Marriage and Family Therapy I
MFT 765 - Principles and Practices of Marriage and Family Therapy II
MFT 771 - Ethical and Legal Issues in Marriage and Family Therapy
MFT 779 - Marriage and Family Therapy Research Seminar
MFT 773 - Marriage and Family Practicum (3 semesters)
MFT 776 - Internship in Marriage and Family Therapy (two semesters)
MFT 777 - Couples Counseling
MFT 779 - Marriage and Family Therapy Research Seminar

MFT 749 - Thesis
or
MFT 750 - Capstone

MFT 705 Credits 3
Child Counseling
Focus on developing knowledge and skills necessary to counsel children and adolescents. Theoretical and practical counseling interventions for helping children and adolescents will be explored. Ethical and legal responsibilities in regard to children, and current research presented. Prerequisites MFT 764 Admission to MFT program or consent of instructor.

MFT 710 Credits 3
Family Therapy with Older Adults
Targets on the use of human relations and counseling techniques with elderly citizens who may have coping or adaptation problems. Emphasis on problems related to aging. Prerequisites MFT 701 Admission to MFT program or consent of instructor.

MFT 711 Credits 3
Issues in Counseling Women
Developmental patterns in women. Changing roles of women; sexist bias and nonsexist counseling; existing counseling approaches and their impact on various female populations; examination of subcultures within the female group. Prerequisites MFT 701 Admission to MFT program or consent of instructor.

MFT 713 Credits 3
Gender Issues in Marriage and Family Therapy
Survey of gender issues for adult men and women, which impact counseling concerns such as relationships, work, and lifestyles. Prerequisites MFT 701 Admission to MFT program or consent of instructor.

MFT 715 Credits 3
Group Processes and Procedures
Group dynamics and procedures; emphasis on personal growth, examination of personal attitudes and values, and group membership. Prerequisites Admission to MFT program or consent of instructor.
### MFT 719  Credits 3
**Sexual Issues in Marriage and Family Therapy**
Basic knowledge, theory, and interventions to help clients deal with sexual issues. Introduces methodology of conducting sexual assessment interviews, as well as structuring and implementing treatment strategies for a variety of issues including: sexual dysfunctions, selected varieties of sexual behavior, aging, disabilities, and transmitted diseases.
**Prerequisites** MFT 765 Admission to MFT program or consent of instructor.

### MFT 720  Credits 3
**Counseling Across the Lifespan**
This class focuses on developing knowledge and skills necessary to counsel across the lifespan. Theoretical and practical counseling interventions for helping across developmental ages will be explored, as well as ethical and legal responsibilities.
**Prerequisites** Admission into the MFT MS program.

### MFT 725  Credits 3
**Diversity in Marriage and Family Therapy**
Provides principles, procedures, and techniques of therapy with multicultural populations. Emphasis on establishing communication with individuals representing diversified cultures. Offering of action-oriented guidance relevant to various cultural lifestyles.
**Prerequisites** Admission to MFT program or consent of instructor.

### MFT 731  Credits 3
**Substance Abuse in Marriage and Family Therapy**
Physical and psychological aspects of substance abuse and other addictions, specific counseling and treatment approaches.
**Prerequisites** Admission to MFT program or consent of instructor.

### MFT 734  Credits 3
**Assessment in Marriage and Family Therapy**
Theoretical and practical approach to assessing the individual. Includes development of framework for understanding individual and group testing in behavioral health; data gathering methods; case study approaches; and individual differences including ethnic, cultural, and gender considerations.

### MFT 736  Credits 1
**Orientation to Marriage and Family Therapy**
Provides information concerning the professional role, function, history, philosophy and practice of therapy. Role of the marriage and family therapist in community, educational, and business settings, as well as their interactive relationship with other professionals.

### MFT 737  Credits 3 – 6
**Seminar: Crucial Issues in Marriage and Family Therapy**
Analysis of selected and significant issues in therapy of current and continuing concern. **Notes** May be repeated once for credit. Majors only.
**Prerequisites** Admission to MFT program or consent of instructor.

### MFT 748  Credits 3
**Marriage and Family Therapy Professional Paper**
The professional paper is designed to demonstrate the skills students have acquired during their graduate education. **Grading** S/F grading only.
**Prerequisites** Admission to MFT program or consent of instructor. **Corequisite** MFT 779

### MFT 749  Credits 3 – 6
**Thesis**
**Notes** May be repeated but only six credits applied to the student's program. **Grading** S/F grading only.
**Prerequisites** MFT 779 Admission to MFT program or consent of instructor.

### MFT 750  Credits 3
**Capstone**
As a capstone experience in the program, students may choose to prepare either a clinical or research portfolio. The clinical portfolio focuses on students’ development as a clinician. The research portfolio focuses on students’ development as a scientist-practitioner. Students will be required to prepare a written and oral presentation. **Prerequisites** Admission into the MFT MS program.
MFT 755  Credits 3
Advanced Marriage and Family Theories
Intensive exploration of current and historical developments in the field of marriage and family therapy. Emphasis on the major systems and applications together with the current research in these areas. **Prerequisites** MFT 765

MFT 756  Credits 3
Human Development
Study of human growth and development of individuals across the lifespan, including stability and change in relationships. Focus on developmental implications in conducting marriage and family therapy and interventions. **Prerequisites** Admission to MFT program or consent of instructor.

MFT 758  Credits 1 – 3
Individual Instruction
Selected basic problems related to the field of marriage and family therapy. a) Testing. b) Curriculum. c) Supervision. d) Therapy. e) Area Problems. f) Research. **Notes** May be repeated to a maximum of nine credits. **Prerequisites** Admission to MFT program or consent of instructor.

MFT 759  Credits 3
Family Dynamics
Study of family factors as they relate to personal adaptability. Application of research and practice in family therapy relative to the interpersonal problems of adults and children.

MFT 761  Credits 3
Technology and the Internet in the Social Science, Research and Practice
Explores role of technology in changing society, application of technology to field of social sciences, research and practice, and limitations and concerns about technology in the helping profession. **Prerequisites** MFT 701 Admission to MFT program or consent of instructor.

MFT 762  Credits 3
Diagnosis in Marriage and Family Therapy
Overview of practical and theoretical aspects of assessment and diagnosis of behavior in marriage and family therapy. Examination of cultural factors affecting diagnosis and assessment. Focus on relational diagnosis. **Prerequisites** Admission to MFT program or consent of instructor. **Corequisite** MFT 764

MFT 763  Credits 3
Family Systems Theory
In-depth analysis of general systems theory as it applies to therapy, especially with multi-person client systems such as couples and families. Major concepts, philosophical foundations, and pragmatic implications of using systematic principles in counseling.

MFT 764  Credits 3
Principles and Practices of Marriage and Family Therapy I
Focuses on the process of family therapy. Beginning skills necessary for family therapy. Theoretical foundations in systems theory as well as each of the major models of family therapy. Prepares students to assess families and conduct family therapy from variety of approaches. **Prerequisites** Admission to MFT program or consent of instructor.

MFT 765  Credits 3
Principles and Practices of Marriage and Family Therapy II
Focuses on contemporary family therapy theories and approaches, including marital therapy theories and models. Advanced understanding of assessment, applications of current research and outcomes, professional and ethical issues, and clinical marital issues included. **Prerequisites** MFT 764

MFT 771  Credits 3
Ethical and Legal Issues in Marriage and Family Therapy
Examination of professional organizations, their methods of change, ethical and legal standards, their evolution and application to a variety of professional activities. **Prerequisites** Admission to MFT program or consent of instructor.
MFT 773  Credits 3
Marriage and Family Practicum
Advanced therapy experience with couples and families. Notes Must be repeated for a minimum of nine credits. Prerequisites MFT 762, MFT 765.

MFT 776  Credits 3
Internship in Marriage and Family Therapy
Internship is the final activity and is intended to provide students with the opportunity to engage in all of the activities of a regularly employed staff member in an approved clinical setting, including working with clients. To be eligible to take Internship, students must have completed all other coursework with the exception of MFT 748/MFT 749. Notes Internship activities take place at community sites where interns can work with clients. Prerequisites MFT 773 Admission to MFT program or consent of instructor.

MFT 777  Credits 3
Couples Counseling
Specialized approaches to resolving adult relationship problems. Theoretical issues, relationship appraisal techniques, and ethical considerations specific to couples therapy. Prerequisites Admission to MFT program or consent of instructor.

MFT 779  Credits 3
Marriage and Family Therapy Research Seminar
Seminar in the application and integration of marriage and family therapy outcome and process research. Emphasis on developing knowledge necessary to understand the results of and apply the methods of marriage and family research through an exploration of applied research methods, and relevant research findings. Prerequisites Admission to MFT program or consent of instructor.

MFT 781  Credits 3
Best Practices in Marriage and Family Therapy
Advanced course that builds upon existing knowledge and clinical experience. Focuses on research supporting the effectiveness of marriage and family therapy. Students will learn “best practice” marriage and family treatment approaches for use with clients suffering from various relational and mental health problems. Prerequisites MFT 762, MFT 779. Admission to MFT program or consent of instructor.

MFT 783  Credits 3
Trauma and Abuse
Specified counseling procedures with the child abuser or abused child. Study etiology of the phenomenon of child abuse. Study of factors and their interpretation to facilitate intervention models and resources to meet client objectives. Prerequisites MFT 759 Admission to MFT program or consent of instructor.

MFT 787  Credits 1 – 3
Individual Research
Selected problems in Marriage and Family Therapy. Notes May be repeated to a maximum of seven credits. Prerequisites Admission to MFT program or consent of instructor.

MFT 788  Credits 1 – 6
Advanced Seminar in Marriage and Family Therapy
Selected topics in counseling and human development services. a) Principles and practices. b) Individual analysis. c) Occupational information. d) Placement. e) Follow-up evaluation. f) Research. Notes May be repeated to a maximum of six credits. Prerequisites Admission to MFT program or consent of instructor.

MFT 793  Credits 3 – 6
Doctoral Internship
Intense supervision with a restricted client load. Enrollees synthesize and translate clinical skills in supervisory role. Restricted to doctoral candidates. Notes May be repeated to a total of six credits. Prerequisites Doctoral candidates. Admission to MFT program or consent of instructor.

MFT 799  Credits 3 – 24
Dissertation
Culminating experience that may be: a) traditional, original research, b) field oriented and problem solving, or c) exploratory or generative research. Notes Limited to doctoral candidates. 3-24 credits in
increments of 3. **Prerequisites** Doctoral candidates. Admission to MFT program or consent of instructor.
School of Social Work

Director

Thompson, Joanne
(2003), Professor; B.A., LaGrange College; M.S.W., University of Arkansas; Ph.D., Rutgers University.

Graduate Program Coordinator

Overcamp-Martini, Maryann
(2002), Graduate Coordinator; B.A., College of Mount St. Joseph-on-the-Ohio; M.P.A., University of Wyoming; M.S.W., Ph.D., University of Utah.

Graduate Faculty

Albert, Vicky
(1998), Professor; B.S.W., M.S.W., University of Illinois; Ph.D., University of California, Berkeley.

Bergquist, Kathleen Leilani Ja Sook
(2004), Associate Professor; B.A., Christopher Newport University; M.S.W., Norfolk State University; Ph.D., College of William and Mary; J.D., Boyd School of Law, University of Nevada, Las Vegas.

Denby Brinson, Ramona
(1998), Associate Professor; B.S.W., Arizona State University; M.S.W., University of Nevada, Las Vegas; Ph.D., Ohio State University.

Epstein, William M.
(1992), Professor; B.A., Brooklyn College; M.S.W., University of Pittsburgh; D.S.W., Columbia University.

Kirkendall, Abbie
(2010), Assistant Professor; B.A., Buffalo State College; M.S.W., University at Buffalo; Ph.D., University at Buffalo.

Owens-Kane, Sandra
(1998), Associate Professor; B.A., M.S.W., University of Nevada, Las Vegas; Ph.D., University of California, Berkeley.

Pelton, Leroy
(1997), Professor; B.S., Brooklyn College; M.A., New School for Social Research; M.S.W., Rutgers University; Ph.D., Wayne State University.

Sharma, Satish
(1982), Professor; B.A., M.A., Panjab University; M.S.W., University of Iowa; Ph.D., Ohio State University.

Sun, An-Pyng
(1997), Professor; B.A., National Chung-Shing University; M.S.W., University of Illinois, Champaign-Urbana; Ph.D., Case Western Reserve University.

Professor Emeriti

Langston, Esther
(1970-2008), Professor; B.A., Wiley College; M.S.W., San Diego State University; Ph.D., University of Texas.

Oakes, Margaret
(1997-2010), Emeritus Associate Professor; B.A., University of Arizona; M.S.W., California State University, Fresno; Ph.D., University of Texas at Austin.

Rubin, Gerald K.
(1976-1998), Emeritus Associate Professor; B.A., University of Minnesota; M.S.W., Ph.D., University of Denver.

The philosophy of the School of Social Work stresses the importance of both sound academic education and rich practical experience in preparing “advanced social work practitioners.” Faculty members bring to their positions a range of knowledge and applied experiences, and they are active in scholarly research, consultation, and practice in their respective fields.
Programs

- Social Work M.S.W.
- Social Work & Juris Doctor Dual M.S.W./J.D.
- Forensic Social Work Certificate

Forensic Social Work Certificate

The Forensic Social Work Certificate Program (FSWCP) is designed to meet the rapidly growing need throughout Nevada and the Southwest for graduate level trained social work practitioners with specific expertise related to law and legal systems. The FSWCP offers a comprehensive, formal specialization in forensic social work. The program addresses areas of practice that reflect the nexus between social work and the law, including: child welfare; domestic relations law including family violence; immigration; adult criminal and juvenile justice; public education; mental health and disabilities; and aging.

The program is guided by the values and knowledge base of the social work profession, governed by the School of Social Work mission statement, and directed by the School’s delineated goals and objectives. Didactic and experiential components of the FSWCP emphasize human diversity and social justice, with particular attention to the needs of at-risk, historically oppressed and vulnerable populations. The FSWCP prepares students for forensic social work practice with individuals, families, groups, organizations, and communities, especially those encountered within complex and dynamic urban environments.

Advanced Graduate Forensic Social Work Certificate Program

Admission Requirements

Additional admissions requirements to the certificate program are delineated as follows:

1. Completion of Advanced Graduate Forensic Social Work application.
2. Verified concurrent admission to or completion of Master’s degree in Social Work or other related human services field.
3. Official transcripts from degree granting program or institution.
4. Professional Social Work License (L.S.W., L.C.S.W., or L.I.S.W. in Nevada or equivalent granted by another state Board of Examiners for Social Workers) preferred, but not required.
5. Personal statement (maximum of 3 pages)
6. Three reference forms (professors or work supervisors with standing to comment on candidate's potential for success as a forensic social worker).
7. Candidate interview at the discretion of the Forensic Social Work Admission Committee.

Students who have applied for and are admitted to an accredited MSW program may simultaneously apply for and be admitted to the certificate program.

Certificate Requirements

Granting of a certificate in forensic social work will be made upon successful completion of the following program of study. All courses for the forensic social work certificate must be completed in no more than three consecutive semesters.

- SW 7001 - Introduction to Forensic Social Work
- SW 776 - Legal and Ethical Issues in Social Work
- SW 7002 - Seminar in Criminal Law
- SW 7003 - Seminar in Family Law
• SW 7004 - Skills Lab in Forensic Social Work
• SW 7005A - Field Practicum - Forensic Social Work
• SW 7005B - Professional Presentation - Forensic Social Work
• SW 7010 - Capstone to Forensic Social Work

MSW students who have taken one or any combination of the following courses up to a maximum of 9 units may apply or petition for the Certificate Advanced Standing Track (CAS):

• SW 776 - Legal and Ethical Issues in Social Work
• SW 7001 - Introduction to Forensic Social Work
• SW 7002 - Seminar in Criminal Law
• SW 7003 - Seminar in Family Law

It will be the responsibility of the FSW certificate applicant to provide official proof of having completed these courses with grades of B or higher. The CAS track requires a minimum of 9 - 12 units of post-masters courses toward the FSW certificate.

Note: SW 7005A and B – students who demonstrate extensive work experience may opt for option “B” in lieu of a field practicum. SWK7005B can only be taken with administrative approval, otherwise all students must participate in the experiential learning experience provided by Field Practicum.

Certificate Advanced Standing Track (CAS track)

The essential certificate requirements remain the same as for the regular certificate program. However, MSW students who have taken one or any combination of the following courses up to a maximum of 9 units may apply or petition for the “CAS track”:

Seminar in Criminal Law
Seminar in Family Law
Legal and Ethical Issues in Social Work
Introduction to Forensic Social Work

Currently, these four (4) courses are accepted as graduate-level “electives” at UNLV and other universities. In order to avoid content repetition, students who have taken one or a combination of these courses and have achieved grades of “B” or higher may apply to the “CAS track.” It will be the responsibility of the FSW certificate applicant to provide official proof to the FSW admissions committee of having completed these courses to the satisfaction of the program. The “CAS track” requires a minimum of 9/12 units of post-masters courses toward the FSW certificate.

Social Work & Juris Doctor Dual M.S.W./J.D.

hours of social work courses are accepted toward the JD.

Applicants to the JD/MSW degree program must apply for, and gain admission to, both the Boyd School of Law JD program and to the School of Social Work MSW program, respectively. Admission requirements are the same as those listed under the regular JD and MSW programs.

While applications from current students in either program will be considered, students normally should...
seek and satisfy admission to enter both programs upon entering the university. However, petitions requesting admission to the dual JD/MSW program from students at more advanced stages in either program will be considered. Those interested are encouraged to submit a request for permission to participate in the program, along with applications for admission, at the earliest possible time. Contact

Civil Procedure/Alternative Dispute Resolution I
Civil Procedure/Alternative Dispute Resolution II
Constitutional Law I
Constitutional Law II
Contracts
Criminal Law
Lawyering Process I
Lawyering Process II
Upper-level writing-intensive course (one of various
Social Policy I and II

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civil Procedure/Alternative Dispute Resolution I</td>
<td>3</td>
</tr>
<tr>
<td>Civil Procedure/Alternative Dispute Resolution II</td>
<td>3</td>
</tr>
<tr>
<td>Constitutional Law I</td>
<td>3</td>
</tr>
<tr>
<td>Constitutional Law II</td>
<td>3</td>
</tr>
<tr>
<td>Contracts</td>
<td>5</td>
</tr>
<tr>
<td>Criminal Law</td>
<td>3</td>
</tr>
<tr>
<td>Lawyering Process I</td>
<td>3</td>
</tr>
<tr>
<td>Lawyering Process II</td>
<td>3</td>
</tr>
<tr>
<td>Upper-level writing-intensive course</td>
<td>2-3</td>
</tr>
<tr>
<td>Professional Responsibility</td>
<td>3</td>
</tr>
<tr>
<td>Property I</td>
<td>3</td>
</tr>
<tr>
<td>Property II</td>
<td>2</td>
</tr>
<tr>
<td>Torts</td>
<td>4</td>
</tr>
<tr>
<td>Third Semester Lawyering Process Course</td>
<td>3</td>
</tr>
</tbody>
</table>

*First-year required courses are prerequisites to all upper-level law courses.

Required MSW Courses - Total Credits: 54

Foundation Field Practicum I and II*

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundation Field Practicum I and II*</td>
<td>6</td>
</tr>
<tr>
<td>DP or MCP Concentration Field Practicum I and II**</td>
<td>6</td>
</tr>
<tr>
<td>Advanced Practice Required courses</td>
<td>12</td>
</tr>
<tr>
<td>Special Topics in Advanced Policy</td>
<td>3</td>
</tr>
<tr>
<td>Capstone Seminar</td>
<td>3</td>
</tr>
</tbody>
</table>

* Foundation Field Practicum at Thomas & Mack Legal Clinic.
**Law Externship accepted for Social Work Field Practicum at approved sites including Congressional, Judicial, and Legislative sites.

Free Electives at Law School - Total Credits: 24

Students in the JD/MSW program must complete 24 other credits of “free” electives at the law school.

- Principles of Public Administration: 3
- Personnel Administration: 3
- Fiscal Administration: 3
- Cross-cutting Issues in Child Welfare: 3
- Legal and Ethical Issues in Social Work: 3
- Child Welfare Policy and Services: 3
- Child Welfare Administration and Supervision: 3
- Advanced Practice with Children: 3
- Advanced Seminar in Policy: 3

MSW Electives - Total Credits: 9

- Principles of Public Administration: 3
- Personnel Administration: 3
- Fiscal Administration: 3
- Cross-cutting Issues in Child Welfare: 3
- Legal and Ethical Issues in Social Work: 3
- Child Welfare Policy and Services: 3
- Child Welfare Administration and Supervision: 3
- Advanced Practice with Children: 3
- Advanced Seminar in Policy: 3

Directed Electives at Law School - Total Credits: 12

These free electives may come from the list of directed electives or from any other elective offered at the law school. Students anticipating practice in a certain area are encouraged to refer to the Course Planning Guide in the Law School Student Policy Handbook for suggested course sequences.
<table>
<thead>
<tr>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Law</td>
<td>3</td>
</tr>
<tr>
<td>Alternative Dispute Resolution Survey</td>
<td>3</td>
</tr>
<tr>
<td>Bill of Rights in Law and Regulation</td>
<td>2-3</td>
</tr>
<tr>
<td>Bioethics and the Law</td>
<td>2-3</td>
</tr>
<tr>
<td>Business Organizations I</td>
<td>3</td>
</tr>
<tr>
<td>Capital Defense Clinic</td>
<td>1-6</td>
</tr>
<tr>
<td>Child, Parent, and the State</td>
<td>2-3</td>
</tr>
<tr>
<td>Children in Society: Selected Problems</td>
<td>2-3</td>
</tr>
<tr>
<td>Child Welfare Clinic</td>
<td>1-6</td>
</tr>
<tr>
<td>Civil Rights Litigation</td>
<td>3</td>
</tr>
<tr>
<td>Congressional Externship</td>
<td>1-12</td>
</tr>
<tr>
<td>Criminal Procedure I</td>
<td>3</td>
</tr>
<tr>
<td>Criminal Procedure II</td>
<td>3</td>
</tr>
<tr>
<td>Disability Law</td>
<td>3</td>
</tr>
<tr>
<td>Domestic Violence and the Law</td>
<td>3</td>
</tr>
<tr>
<td>Education Law and Policy</td>
<td>2-3</td>
</tr>
<tr>
<td>Employment Discrimination Law</td>
<td>3</td>
</tr>
<tr>
<td>Employment Law</td>
<td>3</td>
</tr>
<tr>
<td>Family Law</td>
<td>3</td>
</tr>
<tr>
<td>Federal Income Tax</td>
<td>3</td>
</tr>
<tr>
<td>Feminist Jurisprudence</td>
<td>2-3</td>
</tr>
<tr>
<td>First Amendment Rights</td>
<td>2-3</td>
</tr>
<tr>
<td>Government &amp; Public Interest Externship</td>
<td>1-12</td>
</tr>
<tr>
<td>Health Care Liability and Quality Regulation</td>
<td>3</td>
</tr>
<tr>
<td>Health Care Organization and Finance</td>
<td>3</td>
</tr>
<tr>
<td>Immigration Clinic</td>
<td>1-6</td>
</tr>
<tr>
<td>Immigration Law</td>
<td>3</td>
</tr>
<tr>
<td>International Human Rights Law</td>
<td>2-3</td>
</tr>
<tr>
<td>Interviewing Counseling and Negotiations</td>
<td>3</td>
</tr>
<tr>
<td>Judicial Externship</td>
<td>3</td>
</tr>
<tr>
<td>Juvenile Justice Clinic</td>
<td>2</td>
</tr>
<tr>
<td>Juvenile Law</td>
<td>3</td>
</tr>
<tr>
<td>Land Use Regulation</td>
<td>3</td>
</tr>
<tr>
<td>Law and the American Indian</td>
<td>3</td>
</tr>
<tr>
<td>Law and Social Justice</td>
<td>3</td>
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<tr>
<td>Legislative Externship</td>
<td>1-6</td>
</tr>
<tr>
<td>Mediation</td>
<td>2-3</td>
</tr>
<tr>
<td>Negotiation</td>
<td>2-3</td>
</tr>
<tr>
<td>Seminar in Race, Gender, Sexual Orientation &amp; the Law</td>
<td>3</td>
</tr>
</tbody>
</table>

* Students in the JD/MSW program must successfully complete at least 12 credits from the following list.

**Social Work M.S.W.**

The Master of Social Work (M.S.W.) program at UNLV prepares students for professional social work careers in the areas of direct practice with individuals, families and groups, and in management and community practice. The mission of the M.S.W. program is to educate students to work with populations in urban settings, utilizing generalist, problem solving, empowerment, and social justice approaches. Special attention is given to the mastery of multiple practice issues, attendant upon the present plural and diverse populations in today's American society.

Students may elect either “direct practice” or “management and community practice” as their area of concentration. The direct practice concentration prepares students for advanced social work practice.
with individuals, families, and groups. The management and community practice concentration prepares students for advanced administrative, managerial, and community practice in human service organizations and agencies at the local, state and national levels.

Students are provided academic knowledge related to the theory, research, and major substantive issues in the field and practice experience through practicum experiences in a variety of private and public agency environments. Field practicum placement is concurrent with classroom instruction and is an integral part of the program. A wide variety of field practicum agencies are available, and students are placed in the field under the guidance of the Field Director and in cooperation with the professional supervisory staff from local social service agencies. The program seeks to encourage and accommodate varied student interests, abilities, and career goals. Partnerships and on-going collaborative relationships between the school faculty and the service agencies facilitate a rich blend of academic and community-based experience for our students.

The M.S.W. program is designed to be consistent with the accreditation standards of the field’s national professional accrediting body, the Council on Social Work Education (CSWE). The program is fully accredited by the Council on Social Work Education. The School of Social Work does not discriminate on the basis of race, color, gender, age, creed, ethnic background, national origin, disability, and political, religious, or sexual orientation.

Admission Requirements

An applicant must have the following:

1. A minimum overall grade point average of 2.75 on a 4.00 scale for the bachelor’s degree. An earned bachelor’s degree in social work from an accredited program or a degree in another field.
2. Completion of the following liberal arts courses: English composition or literature courses; college-level mathematics or statistics course; courses in social sciences, preferably in psychology, sociology, and anthropology; a science course; one course in fine arts or humanities; a course in history or political science; a course or content in the biological determinants of human behavior or human biology; a course or content in diverse cultures, social conditions, or social problems. The applicant must not have more than two course deficiencies to be admitted to the program, and those must be cleared by the end of the first semester of M.S.W. studies.
3. An applicant must submit an application for admission, transcripts of all college-level work, and the application fee to the Graduate College. Three letters of recommendation (as specified below), a personal statement, and transcripts of all college-level work must be submitted to the School of Social Work.
4. The applicant must submit to the School of Social Work three letters of recommendation (on the prescribed form) that reflect the applicant’s academic experience, general abilities, and interest and motivation in pursuing a graduate degree in social work. One of these letters should be from the most recent employer in a social work position (if applicable), and one should be from an instructor (social work instructor, if applicable) from the last college attended. The third letter should be from a person who is familiar with the applicant’s overall qualifications, experience, and interest in pursuing the M.S.W. degree.

Admission to the MSW Program cannot be deferred. The student must also enroll in the program to which admission is offered (i.e., a particular concentration, full or part-time.) Students must make any request for a change in status in writing and in accordance with School procedure. Also considering the rigor of the program, students must evaluate if their individual circumstances and resources warrant applying for the full-time or part-time program. Students working 20 hours a week or more are strongly advised to apply to the part-time program.
Degree Requirements: 63 Total Credits

**Foundation Course Requirements:**
- SW 701 - Social Welfare Policy I
- SW 703 - Social Welfare Policy II
- SW 715 - Human Behavior and the Social Environment I
- SW 716 - Social Work Research I
- SW 719 - Foundation Practice I
- SW 720 - Foundation Practice Methods I
- SW 726 - Social Work Research II
- SW 729 - Foundation Practicum II
- SW 730 - Macro Theory and Practice

**Other Degree Requirements:**
The other degree requirements include the completion of course work with a minimum overall grade point average of 3.00 on a 4.00 scale. Those choosing the thesis option will enroll in SW 796 - Thesis for 2 semesters (instead of the Capstone Seminar and one elective course) and will orally defend the thesis before a chosen committee.

Direct Practice Concentration

**Required Courses in addition to the foundation courses:**
- SW 707 - Developing Cross Cultural Competence
- SW 739 - Field Practicum I (DP)
- SW 740 - Direct Practice I
- SW 747 - DSM: Assessment and Diagnosis
- SW 749 - Field Practicum II (DP)
- SW 750 - Direct Practice II

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SW 785 - Special Topics in Advanced Policy
SW 795 - Capstone Seminar
In addition, students must complete 9 graduate elective credits.

Management and Community Practice Concentration

**Requirements:**
- SW 707 - Developing Cross Cultural Competence
- SW 759 - Field Practicum I (MCP)
- SW 760 - Management and Community Practice I
- SW 765 - Financial Management and Resource Development
- SW 769 - Field Practicum II (MCP)
- SW 770 - Management and Community Practice II
- SW 775 - Advanced Policy Practice
- SW 785 - Special Topics in Advanced Policy
- SW 795 - Capstone Seminar
In addition, students must complete 6 graduate elective credits.

**SW 602**  
**Credits 3**  
**The Effects of War on Individuals and Communities**  
The course examines the effects that overwhelming and horrifying events in war have on the individual and their social environment. A variety of countries at war will be examined through film, literature, journal articles, and the internet to help understand the settings and real life outcomes of war.

**SW 605**  
**Group Practice**  
This 600-level course has been approved for graduate credit. A full description of this course may be found
in the Undergraduate Catalog under the corresponding 400 number.

**SW 622**  
**AIDS: An Interdisciplinary Perspective**  
This 600-level course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**SW 641**  
**Social Work with the Elderly**  
This 600-level course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**SW 661**  
**Seminar: Contemporary Issues in Social Welfare**  
This 600-level course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**SW 662**  
**Issues in Child Welfare**  
This 600-level course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**SW 670**  
**Community Organization Practice**  
This 600-level course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**SW 671**  
**Credits 1-3**  
**Advanced Seminar: Special Problems**  
This 600-level course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**SW 672**  
**Principles of Family Counseling**

This 600-level course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**SW 674**  
**Credits 3**  
**Grant Writing and Management**  
Prepares current health and human service professionals to develop and write effective grant proposals. Provides a basic overview and review of the grant writing process. This course helps students generate program ideas, plan and develop funding proposals to support those ideas, and seek appropriate funding sources.

**SW 675**  
**Treatment of Addictions**  
This 600-level course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**SW 678**  
**Credits 3**  
**Global Child Welfare**  
This course addresses the major challenges faced by children and their families globally and prepares the student for further study or action in specific areas of concern. Each content area (poverty, child labor, exploitation, etc.) will cover incidence, political, social and cultural interplay, current response, and recommended future strategies.  
**Prerequisites** SW 715 and SW 735 or consent of instructor.

**SW 693**  
**Gandhian Welfare Philosophy and Nonviolent Culture**  
This 600-level course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

**SW 694**  
**Eastern Conceptions and Social Work Practice**  
This 600-level course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Course Title</th>
<th>Description</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>SW 703</td>
<td>3</td>
<td>Social Welfare Policy II</td>
<td>Examines social welfare policy and provides analytical frameworks and guidelines for determining the efficacy of public policy in addressing human needs. Focuses on the issues of poverty, social services and generalist social work practice.</td>
<td>SW 701</td>
</tr>
<tr>
<td>SW 705</td>
<td>3</td>
<td>Social Work Practice with Therapeutic Groups</td>
<td>Historical development of group work, practice methodology in interactional groups, and theoretical underpinnings for social work practice. Focuses on development of skills to lead therapeutic groups with a variety of diverse urban population.</td>
<td>SW 720 and SW 730 or SW 780</td>
</tr>
<tr>
<td>SW 707</td>
<td>3</td>
<td>Developing Cross Cultural Competence</td>
<td>Sensitizes students to the strengths, problems and issues in working with groups of color. Provides an understanding of the cultural and behavioral patterns of ethnic communities with a framework for utilizing this knowledge in social work practice.</td>
<td>Graduate standing in Social Work.</td>
</tr>
<tr>
<td>SW 710</td>
<td>3</td>
<td>Child Welfare Practice</td>
<td>Develops advanced knowledge and skills for use in intervening in current or potential problems of abuse, neglect, dependency, unruliness, and delinquency of children and youth. Types of services, both traditional and new, social workers provide to children.</td>
<td>SW 793 or concurrent enrollment in SW 793.</td>
</tr>
<tr>
<td>SW 715</td>
<td>3</td>
<td>Human Behavior and the Social Environment I</td>
<td>Provides advanced knowledge-building theories and knowledge of normal and abnormal human biopsychosocial development and functioning of individuals, families and micro-groups. Focuses on the impact of social, economic, and cultural systems on individual, family and group well-being. Provides foundational understanding of the use of DSM-IV.</td>
<td>SW 701</td>
</tr>
<tr>
<td>SW 716</td>
<td>3</td>
<td>Social Work Research I</td>
<td>Provides an understanding of the scientific-analytic approach to the building of the knowledge base for social work practice at different levels. Provides familiarity with quantitative and qualitative research methodologies, various research designs, sampling procedures, data collection procedures, data analysis techniques, and report writing. Emphasizes diversity, empowerment, and social justice considerations as well as ethical standards of conducting research.</td>
<td>SW 701</td>
</tr>
<tr>
<td>SW 719</td>
<td>3</td>
<td>Foundation Practice I</td>
<td>Foundation field practicum course requires 150 hours of generalist social work practice experience in a social service agency and attendance in weekly field seminar classes. Provides broad range of experiences, from micro to macro levels of intervention. Ongoing professional field supervision/consultation also required.</td>
<td>Graduate standing in Social Work. Corequisite Enrollment in SW 720.</td>
</tr>
<tr>
<td>SW 720</td>
<td>3</td>
<td>Foundation Practice Methods I</td>
<td>First course in the foundation practice sequence introduces students to a generalist practice approach with individual, families, and groups. Emphasizes values, ethics, knowledge, and skills essential for working with clients. Prepares students with generic practice skills in assessment, interviewing, intervention, evaluation, and termination.</td>
<td>SW 701</td>
</tr>
</tbody>
</table>
**Prerequisites** Graduate standing in Social Work.

**Corequisite** Enrollment in SW 719.

**SW 726** Credits 3

**Social Work Research II**
Provides knowledge and practice of program evaluation, single-subject design, descriptive statistics, inferential statistics, data management and data analysis using SPSS. **Prerequisites** SW 716

**SW 729** Credits 3

**Foundation Practicum II**
Foundation field practicum course requires 150 hours of generalist social work practice experience in a social service agency and attendance in weekly field seminar classes. Provides broad range of experiences, from micro to macro levels of intervention. Ongoing professional field supervision/consultation also required. **Prerequisites** SW 716 **Corequisite** Enrollment in SW 729.

**SW 730** Credits 3

**Macro Theory and Practice**
Second course in the generalist foundation practice sequence focuses on professional practice with organizations, groups, coalitions, and communities, utilizing advanced knowledge and theories at the mezzo and macro levels. Emphasizes a strengths perspective and provides generalist-level content in management, community organization and development, and policy practice. **Prerequisites** SW 719, SW 720 **Corequisite** Enrollment in SW 729.

**SW 739** Credits 3

**Field Practicum I (DP)**
Field practicum requires 300 hours in a social service agency and attendance in weekly field seminar classes. Builds upon generalist foundation. Prepares for advanced, critically analyzed, and ultimately autonomous direct social work practice. Ongoing professional field supervision/consultation also required. **Prerequisites** SW 729 or Advanced Standing. **Corequisite** Enrollment in SW 740.

**SW 740** Credits 3

**Direct Practice I**
First course in advanced direct social work practice. Integrates skills of assessment, interviewing, intervention, and termination into social work treatment models and theories. Builds upon generalist foundation. Highlights empowerment, client advocacy, and strengths perspective. Emphasizes social work with individuals from culturally diverse and oppressed populations. **Prerequisites** SW 730 or advanced standing. **Corequisite** Enrollment in SW 739.

**SW 747** Credits 3

**DSM: Assessment and Diagnosis**
Exploration and a synopsis of the criteria for diagnoses in the DSM for social work practice. Focuses on the use of DSM in assessment interventions and with diverse urban populations.

**SW 749** Credits 3

**Field Practicum II (DP)**
Field practicum course requires 300 hours of experience in a social service agency and attendance in weekly field seminar classes. Builds upon generalist foundation. Prepares for advanced, critically analyzed, and ultimately autonomous direct social work practice. Ongoing professional field supervision/consultation also required. **Prerequisites** SW 739 **Corequisite** Enrollment in SW 750.

**SW 750** Credits 3

**Direct Practice II**
Second course in advanced direct social work practice. Intergrades systems of family-centered practice. Builds upon generalist and advanced curricula. Explores context of social work with families and groups via historical, conceptual, and contemporary modes of practice. Emphasizes working with culturally diverse and oppressed populations. **Prerequisites** SW 740 **Corequisite** Enrollment in SW 749.

**SW 755** Credits 3

**Seminar in Forensic Social Work**
Explores the interaction between social work and the law. Emphasizes the knowledge, skills, and values of practice with and within legal settings with a focus on interdisciplinary collaborations, ethical issues, and
the varying roles of social workers within the legal arena.

SW 759 Credits 3
Field Practicum I (MCP)
Field practicum course requires 300 hours of experience in a social service agency and attendance in weekly field seminar classes. It builds upon generalist foundation. Prepares for advanced, critically analyzed and ultimately autonomous practice in management and community practice. Ongoing professional field supervision/consultation also required. Prerequisites SW 729 or advanced standing. Corequisite Enrollment in SW 760.

SW 760 Credits 3
Management and Community Practice I
Advanced applications of the management and planning processes as they relate to community organization and development. Uses community practice and management frameworks for human service organizations and community development and change. Prerequisites SW 729 or advanced standing. Corequisite Enrollment in SW 759.

SW 763 Credits 3
Principles of Public Administration
Survey of the field of public administration with introduction to the function of finance, personnel, administration, evaluation, research and planning. Prerequisites Enrollment in the M.S.W. or M.P.A. program or consent of instructor.

SW 765 Credits 3
Financial Management and Resource Development
Addresses the knowledge and skills needed to financially manage a human services organization. Prepares the student with problem-solving skills for innovative management in financial processes such as planning, financial control and analysis, budgeting, grant proposal writing, and resource development and allocation in a challenging environment. Prerequisites PUA 701 or consent of instructor.

SW 767 Credits 3
Seminar in Public Personnel Administration
Includes advanced reading, discussion and research in personnel problems as seen in the public and nonprofit sector. Prerequisites PUA 701 or consent of instructor.

SW 768 Credits 3
Supervision in Social Work
Delineates and explores principles, concepts, and components of supervision in social work. Examines the transition from worker to supervisor, differentiates supervision and consultation. Prerequisites Graduate standing in Social Work.

SW 769 Credits 3
Field Practicum II (MCP)
Field practicum course requires 300 hours of experience in a social service agency and attendance in weekly field seminar classes. It builds upon generalist foundation. Prepares for advanced, critically analyzed and ultimately autonomous practice in management and community practice. Ongoing professional field supervision/consultation also required. Prerequisites SW 759 or advanced standing. Corequisite Enrollment in SW 770.

SW 770 Credits 3
Management and Community Practice II
Develops skills in needs assessment, program design and evaluation. Students understand social problems in the context of their communities and the needs and problems of a variety of sub-populations. Prerequisites SW 760 Corequisite Enrollment in SW 769.

SW 775 Credits 3
Advanced Policy Practice
Advanced knowledge and skills in effective advocacy in the human services, particularly in management and community practice. Focus on social workers as political actors and activists with the ability to determine effective strategies and techniques among policy alternatives and an understanding of ethical complexity in an advocacy and political context. Prerequisites SW 701, SW 703, SW 730
### SW 776
#### Legal and Ethical Issues in Social Work
This 600-level course has been approved for graduate credit. A full description of this course may be found in the Undergraduate Catalog under the corresponding 400 number.

### SW 779
#### Field Practicum (APP) III
Credits 3
Supervised social work practice experience consisting of 300 hours in a child welfare agency and attendance in weekly field seminar classes. Provides for the integration and application of social work values, knowledge, and micro to macro levels of advanced practice skills. **Prerequisites** SW 769  **Corequisite** Enrollment in SW 780.

### SW 785
#### Special Topics in Advanced Policy
Credits 3
Advanced studies in a selected social policy issue. Emphasizes policy analysis of current and critical issues in areas such as child and family studies, poverty and homelessness, health and mental health, addictions, and policy practice. **Prerequisites** SW 701, SW 703.

### SW 786
#### Child Welfare Program Evaluation
Credits 3
In-depth analysis of the planning and evaluation process in child welfare. Analyzes challenges confronting child welfare organizations in the United States. **Prerequisites** SW 716, SW 726

### SW 789
#### Field Practicum II (Child Welfare)
Credits 3
Supervised social work practice experience consisting of 300 hours in a child welfare agency and attendance in weekly field seminar classes. Provides for an appropriate progression in the integration and application of social work values, knowledge, and micro to macro levels of advanced practice skills. **Prerequisites** Child Welfare Concentration.

### SW 790
#### Family-Based Practice
Credits 3
Provides students with an understanding of and advanced competencies in family-based services. Integration of theory, practice, programming and research within family-based services. Students apply therapeutic problem solving models to complex family patterns. **Prerequisites** SW 710, SW 793, or consent of instructor.

### SW 791
#### Advanced Practice With Children
Credits 3
Examination of child and adolescent treatment issues and corresponding interventions. Child behavior disorders; issues of abandonment, grief and loss; and general children's mental health issues. **Prerequisites** Graduate standing in Social Work.

### SW 792
#### Cross-Cutting Issues in Child Welfare
Credits 3
Special topics in the child welfare system, focusing primarily on the issues of mental health, substance abuse, and domestic violence faced by clients in the child welfare system. **Prerequisites** Graduate standing in Social Work.

### SW 793
#### Child Welfare Policy and Services
Credits 3
Analyzes contemporary United States public child welfare policy, programs, and services, emerging policy and program directions in the field of child welfare, and their historical and philosophical roots, with particular emphasis on the preservation and reunification of families, preventive and supportive services, permanency planning, foster care, and adoption. **Prerequisites** SW 701 and SW 703.

### SW 795
#### Capstone Seminar
Credits 3
Capstone seminar focused on assessing intervention theories and strategies regarding a specific topic in social work practice. **Prerequisites** SW 701, SW 703, SW 715, SW 716, SW 719, SW 720, SW 726, SW 729, and SW 730.

### SW 796
#### Credits 3
Thesis
Development, completion, and oral defense of research project before a chosen committee, aimed at evaluation of practice outcomes at different levels and advancement of scientific knowledge for social work practice. **Prerequisites** SW 716, SW 726

SW 797  **Credits 3**
**Culturally Competent Child Welfare Practice**
Cultural competence in child welfare practice. Examination social, psychological, economic, political, and other structural aspects of racism, ethnicity, and multiculturalism as a dynamic of the public child welfare services system in the United States. **Prerequisites** Graduate standing in Social Work.

SW 798  **Credits 3**
**Child Welfare Administration and Supervision**
Introduces students to contemporary theories on administration and supervision in organizations which provide services to children and families. Focuses on public and nonprofit child welfare administration and supervision. **Prerequisites** SW 793

SW 799  **Credits 1 – 3**
**Independent Study**
Intensive study in a specific area of student interest under the direction of a faculty member. May be repeated to a maximum of six credits. **Prerequisites** Consent of instructor.

SW 7001  **Credits 1**
**Introduction to Forensic Social Work**
Required for Forensic Social Work Certification. Course provides an overview of forensic social work principles and practice. Students are oriented to the roles and functions of social workers in host legal settings, and introduced to the organizational and professional cultural factors inherent to interdisciplinary collaborations.

SW 7002  **Credits 3**
**Seminar in Criminal Law**
Required for Forensic Social Work Certification. Addresses the social worker's involvement in criminal law as part of a legal team. Topics cover criminal litigation from the time an individual is charged through to adjudication and sentencing. **Prerequisites** Admission to the Forensic Social Work Certification Program.

SW 7003  **Credits 3**
**Seminar in Family Law**
Surveys a spectrum of issues involving marriage, cohabitation and the family. Topics include the law and ethics of alternative dispute resolution (e.g. family, custody and divorce mediation), litigation in family matters, adoption, custody, guardianship, same-sex cohabitants, and parent-child issues with a solution focus. **Prerequisites** Admission to the Forensic Social Work Certification Program.

SW 7004  **Credits 3**
**Skills Lab in Forensic Social Work**
Students will demonstrate forensic social work practice skills under critical analysis and review. Areas of focus include documentation and report writing for the legal arena, expert witness testimony, interviewing and assessment, mock court and advocacy. **Prerequisites** Admission to the Forensic Social Work Certification Program.

SW 7005A  **Credits 3**
**Field Practicum - Forensic Social Work**
Required for Forensic Social Work Certification. Alternative to SW 7005B. Experiential learning at a community-based agency within the legal arena. Students will apply forensic social work theory and concepts to supervised practice. **Notes** Course requires completion of practicum hours and field seminar attendance. **Prerequisites** Admission to the Forensic Social Work Certification Program; SW 7001.

SW 7005B  **Credits 3**
**Professional Presentation - Forensic Social Work**
Alternative to SW 7005A. Students will participate in directed research and present in a topical area of forensic social work theory or practice at a conference or symposium. **Prerequisites** Admission
to the Forensic Social Work Certification Program; instructor permission required.

SW 7010 Credits 2
Capstone to Forensic Social Work
Continuation of SW 7001; students are required to demonstrate integration and synthesis of certification program content. Requirements include the production of (1) a publication quality paper co-authored with social work or law faculty, and (2) a professional portfolio documenting program achievements. Prerequisites Admission to the Forensic Social Work Certification Program, SW 7001.