

HID 773**Healthcare Design I.****6 Credits****Fall Semester****Prerequisite Course(s)****Course Description**

First in a sequence of three project-based and data driven Healthcare Design courses organized around a neuroscience-informed and evidence-based design methodological paradigm complemented by courses in the health and behavioral sciences. Creative and innovative design strategies are developed to support the transformation of healthcare from reactive and hospital-centered to preventive, proactive, person-centered and focused on well-being rather than disease. Integral to this process is the transfer and translation of current knowledge that crosses multiple disciplines, i.e., sociology, psychology and neurosciences which offer the substance to better understand interactions between human brain functions, behavior and the interior environment where humans spend approximately ninety percent of their lives. Neuroscience identifies and explains brain functions, an understanding of which provides the substance for informed design strategies and the evaluation of human-environment relationships, i.e., the brain acquires information from the environment, a multisensory experience, and uses new and retained information to direct behaviors. Understanding the role the brain plays in cognition, behavior, and learning can help designers better recognize and address design issues encountered in project based design studio educational experience and other applied settings in the practice of providing professional design services.

This course emphasizes the design of private and small group interior architectural spaces and their relationships to behavioral responses in multigenerational contexts.

Learning Objectives:**I. Course Learning Objectives:**

Upon completion of the course, students will be able to:

- understand cross-disciplinary concepts and theories of health promoting spatial qualities as they pertain to building methods, materials, systems, and occupants
- identify, evaluate, transfer, and translate current knowledge from neuroscience to formulate design premises and develop informed design strategies
- apply current and best evidence from research and practice as project drivers to inform accountable total project delivery processes
- understand the implications of conducting the practice of design within a world context and how design needs may vary for stakeholders
- apply universal design concepts, theories of human behavior, and interpret anthropometric data relevant to making design decisions
- creatively and effectively apply elements and principles of design and techniques of space planning to design solutions, and be able to evaluate and communicate theories or concepts of spatial definition and organization
- synthesize information and generate multiple concepts and/or multiple design responses to programmatic requirements to demonstrate creative thinking and originality through presentation of a variety of ideas, approaches and concepts
- participate in and contribute to integrated design practices

II. Texts, readings, and instructional resources:

 Required Texts:

Journey Across the Life Span: Human Development and Health Promotion Paperback by E. U. Polan and D. R. Taylor

Dimensions of Human Behavior: The Changing Life Course Paperback by E. D. Hutchison
The Neuropsychiatric Inventory by J. L. Cummings, MD, M. Mega, MD, K. Gray, MD, S.
Rosenberg-Thompson, RN, MN, D. A. Carusi, BS and J. Gornbein, DrPH
<http://www.neurology.org/content/44/12/2308.full.pdf+html>

☞ Recommended Texts:

The Expanded Family Life Cycle: Individual, Family, and Social Perspectives by M.
McGoldrick, B, Carter
Environmental Psychology for Design by Dak Kopec

III. Assignments, evaluation procedures, and grading policy

☞ Academic Requirements:

PROJECT: Multigenerational Dementia-friendly Residential Environment

PROJECT CONSULTANTS: Dylan Wint, MD, Neurologist and the Cleveland Clinic Ruvo
Center for Brain Health Staff.

PROJECT BACKGROUND

Growing aging populations with neurodegenerative disorders (NDD) who live in and want to remain in their communities and with their families often have to modify their homes, or relocate to newly constructed homes to accommodate their changing needs. Spatial qualities of building interiors constitute a major factor in enabling families and aging members with NDD to productively manage their daily physical and mental activities. The need for neuroscience-informed design strategies is especially evident in states such as Nevada, where the senior citizen population grew more than 50 % over the past decade and expected to make up one fourth of the state's population by the year 2030.

PROJECT STATEMENT

Design a dementia-friendly environment in a multigenerational private residence (First Floor only) to accommodate and enhance daily functions in later years informed by the Neuropsychiatric Inventory (NPI) used for assessing behavioral outcomes for neurological disorders. Four areas to be planned and designed include food preparation, personal hygiene, sleeping and social.

OBJECTIVES

Develop design concepts for a dementia-friendly residential environment in which lighting, acoustics, physical design and technology all work together to create a supportive environment for people with dementia.

Demonstrate how interior spatial qualities support orientation (i.e., wayfinding), executive functions and memory to enhance the productive management of daily physical and mental activities.

RESEARCH (knowledge transfer and translation)

1 – 3 weeks

Develop a working knowledge of all aspects of the project that draws from an exhaustive compilation of information based on the Neuropsychiatric Inventory (NPI). This body of information is to be used and documented throughout the duration of the project to inform design decisions.

PROGRAMMING (design premise)

4 – 6 weeks

Review of preliminary Program

Write brief area-specific concept statements illustrated with concept sketches based on NPIs (approximately 100 words) for each: Food preparation, Personal hygiene, Sleeping, Social areas.

Include formatted NPI worksheets to document DESIGN PREMISES and DESIGN STRATEGIES.

SCHEMATIC DESIGN (creation of new knowledge, design premise and design strategy)

7 – 9 weeks

Based on the Program develop explorative conceptual design responses. Include the following:

- Study models and conceptual sketches
- Space plan
- Reflected ceiling plan
- Furniture and fixtures selection and layout appropriate to intended uses
- Lighting selection and design appropriate to function of specific space
- Materials and finishes selections appropriate to each space

When developing conceptual design, use programmatic information from NPIs to establish clear corresponding relationships between human performance and building performance (physical features of the environment)

DESIGN DEVELOPMENT (informed design intervention)

10 – 14 weeks

(Preview of completed projects)

Refine and finalize the approved design concepts, develop detailed interior spaces and finalize materials/finishes and equipment/technology selections.

SUBMISSION REQUIREMENTS

Research

- Completed Neuropsychiatric Inventory (NPI) worksheets with Concept Statements
- References: directly related information highlighted
- Personal notes
- Progress/creative process visualization/sketches of concept (actual and virtual)
- Images of scale study models

Material/Finish/Color Selections - samples

- Specifications with brief statements regarding:
- Performance: functionality, safety, and durability
- Maintenance
- Product life cycle: selection of materials and products based on time span of performance not only at time of construction/installation, but also throughout their life cycles

Plans

Scale: 1/4" = 1'-0"

Elevations (2 or more of each area)

Scale: 1/4" = 1'-0"

Perspective Renderings (4 full pages required)

Food preparation area

Personal hygiene area

Sleeping area

Social area

Perspective Renderings (4 full pages required)

(with information revealed interactively on how the physical environmental features correspond to one or more of the Neuropsychiatric Inventory)

Food preparation area

Personal hygiene area

Sleeping area

Social area

Compact Disk - compiled PDF of presentation boards and NPIs in required format with Concept Statements for each area

Presentation to Jury Panel at the Cleveland Clinic Ruvo Center for Brain Health:

Jury Week – End of Semester, date to be announced

Academic Requirements in compliance with Council for Interior Design Accreditation (CIDA)
Professional Standards:

Standard 2. Global Perspective for Design

Student Learning Expectations

Student work demonstrates understanding of:

a) the concepts, principles, and theories of sustainability as they pertain to building methods, materials, systems, and occupants.

Students understand:

b) the implications of conducting the practice of design within a world context.

c) how design needs may vary in cultural and social groups with different economic means.

Standard 3. Human-centered Design

Student Learning Expectations

a) Students understand that social and behavioral norms may vary from their own and are relevant to making appropriate design decisions.

Student work demonstrates:

b) the ability to appropriately apply theories of human behavior in the built environment.

c) the ability to select, interpret, and apply appropriate anthropometric data.

d) the ability to appropriately apply Universal Design principles.

Standard 4. Design Process

Student Learning Expectations

Students are able to:

a) identify and define relevant aspects of a design problem (goals, objectives, performance criteria).

b) gather, evaluate, and apply appropriate and necessary information and research findings to solve the problem (pre-design investigation).

c) synthesize information and generate multiple concepts and/or multiple design responses to programmatic requirements.

d) demonstrate creative thinking through presentation of a variety of ideas, approaches, and concepts.

Standard 5. Collaboration

Student Learning Expectations

Students have awareness of:

a) team work structures and dynamics.

b) the nature and value of integrated design practices.

Standard 6. Communication

Student Learning Expectations

a) Students apply a variety of communication techniques and technologies appropriate to a range of purposes and audiences.

Students are able to:

b) express ideas clearly in oral communication.

c) express ideas clearly in written communication.

d) express ideas clearly through visual media (ideation drawings and sketches).

e) produce presentation drawings across a range of appropriate media.

f) produce integrated contract documents including drawings, schedules, and specifications appropriate to project size and scope.

g) integrate oral and visual material to present ideas clearly.

Standard 7. Professionalism and Business Practice

Student Learning Expectations

Students understand:

a) the contributions of interior design to contemporary society.

b) various types of design practices.

c) the elements of business practice (business development, financial management, strategic planning, and various forms of collaboration and integration of disciplines).
d) the elements of project management, project communication, and project delivery methods.

e) professional ethics.

Standard 8. History

Student Learning Expectations

a) Students understand the social, political, and physical influences affecting historical changes in design of the built environment.

Students understand movements and traditions in:

b) interior design

c) architecture.

d) furniture, decorative arts, and art.

e) Students apply precedents to inform design solutions.

Standard 9. Space and Form

Student Learning Expectations

Students effectively apply the elements and principles of design to:

a) two-dimensional design solutions.

b) three-dimensional design solutions.

c) Students are able to analyze and communicate theories or concepts of spatial definition and organization.

Standard 10. Color

Student Learning Expectations

Student work demonstrates understanding of:

a) color principles, theories, and systems.

b) the interaction of color with materials, texture, light, form and the impact on interior environments.

Students:

c) appropriately select and apply color with regard to its multiple purposes.

d) apply color effectively in all aspects of visual communication (presentations, models, etc.)

Standard 11. Furniture, Fixtures, Equipment, and Finish Materials

Student Learning Expectations

Students have awareness of:

a) a broad range of materials and products.

b) typical fabrication and installation methods, and maintenance requirements.

c) Students select and apply materials and products on the basis of their properties and performance

criteria, including ergonomics, environmental attributes, and life cycle cost.

d) Students are able to layout and specify furniture, fixtures, and equipment.

Standard 12. Environmental Systems

Student Learning Expectations

Students:

a) understand the principles of natural and electrical lighting design.

b) competently select and apply luminaires and light sources.

Students understand:

c) the principles of acoustical design.

d) appropriate strategies for acoustical control.

Students understand:

e) the principles of thermal design.

f) how thermal systems impact interior design solutions.

Students understand:

g) the principles of indoor air quality.

h) how the selection and application of products and systems impact indoor air quality.

Standard 13. Building Systems and Interior Construction

Student Learning Expectations

Student work demonstrates understanding that design solutions affect and are impacted by:

- a) structural systems.
- b) non-structural systems including ceilings, flooring, and interior walls.
- c) distribution systems including power, mechanical, HVAC, data/voice telecommunications, and plumbing.
- d) energy, security, and building controls systems.
- e) the interface of furniture with distribution and construction systems.
- f) vertical circulation systems.
- g) Students are able to read and interpret construction drawings and documents.

Standard 14. Regulations and Guidelines

Student Learning Expectations

Students have awareness of:

- a) sustainability guidelines.
- b) industry-specific regulations.

Student work demonstrates understanding of laws, codes, and standards that impact fire and life safety,

including:

- c) compartmentalization: fire separation and smoke containment.
- d) movement: access to the means of egress including stairwells, corridors, exitways.
- e) detection: active devices that alert occupants including smoke/heat detectors and alarm systems.
- f) suppression: devices used to extinguish flames including sprinklers, standpipes, fire hose cabinets, extinguishers, etc.

Students apply:

- g) federal, state/provincial, and local codes.
- h) standards.
- i) accessibility guidelines.

Administrative Requirements:

Studio Standards and Policies

The Program maintains standards of design quality in student work and personal conduct in design studios which are congruent with the mandate assumed by other professional programs accredited by the Council for Interior Design Accreditation. The design studio, therefore, is considered a learning environment predicated on presence, participation, dialogue, initiative and learning by doing. Sharing thoughts, discussing ideas and seeking feedback are important aspects in the testing, development, and refinement of design concepts.

In this context each design project is considered an experiment, where successful experiments must be based on sound reasoning, fact, knowledge, rigorous method, historical precedent and a valid concept. Through the design process one seeks to find unique design solutions to an identified problem by appropriately responding to design criteria with minimal undesirable, unforeseen side effects.

Because the activity of design is time-bound, design studio is time-bound. Hence, the strategic management of time is crucial to a quality design studio experience.

Course Completion Requirements:

- Completion of assigned project in compliance with project statement requirements. Incomplete projects are not considered for evaluation and are not formally presented.

- Presentation and defense of completed project by articulating corresponding relationships between program and proposed design concept.
- Projects must demonstrate a process in which conceptually innovative approaches to design problem solving not only produce design propositions but also serve as a mode of critical inquiry.

Letter Grade Description

A Superior: Represents comprehensive excellence. Not only does the work fulfill all requirements in an excellent and professional manner but goes beyond the given requirements aiming at standards higher than requested. The student is an active and engaged participant in all class activities and intellectual progress and development have been demonstrated by the timely preparation of thoughtful work on a regular basis. This work is of a quality that is instructive to the studio critic and exemplary to the rest of the class and sets a standard for the course.

B Above Average: Represents work that can be distinguished as being of "good" quality. The work is free of significant flaws, is comprehensive in scope and exceeds all minimum requirements. The student is an active and engaged participant in all class activities and intellectual progress and development have been demonstrated by the timely preparation of work on a regular basis. This work is of a quality that is exemplary for the course.

C Average: Represents satisfactory and average performance. The work is free of major flaws, is comprehensive in scope, and meets all minimum requirements. Intellectual progress and development have been demonstrated by the timely preparation of work on a regular basis. The student and studio critic can take "satisfaction" in the average resolution of the course.

D-F Failing: Represents substandard work that is not passable. The work has not fulfilled requirements, or has not been completed on time, or does not appropriately address the issues raised by the course and is unacceptable.

I Incomplete: An "incomplete" on a project can only be given in exceptional cases in which failure to complete the assignment is a direct result of verifiable documented illness or injury requiring a visit to a medical facility, a death in the immediate family, military or legal obligations, or other equally serious reasons that can be documented in acceptable written form (such as medical records or legal notification). In addition, documentation for excused absences must be provided no later than the third class meeting following the event or the absence(s) will be counted as unexcused and no Incomplete can be given. All incomplete work is subject to late penalties as per the studio critic's policy.

School of Architecture Grading Policy

Any course required for a major in which a grade of C+ or less is received for a graduate level course, the course must be repeated with an earned grade of B- or above.

IV. Weekly Schedule:

PROJECT: Multigenerational and Dementia-friendly Residential Environment

1 – 3 weeks

RESEARCH (knowledge transfer and translation)

Group discussions as required

4 – 6 weeks

PROGRAMMING (design premise)

Review of preliminary Program

Meetings with Dylan Wint, MD, Neurologist, and the Cleveland Clinic Ruvo Center for Brain Health Staff

7 – 9 weeks

SCHEMATIC DESIGN (creation of new knowledge, design premise and strategy)

Progress reviews as required

Meetings with Dylan Wint, MD, Neurologist, and the Cleveland Clinic Ruvo Center for Brain Health Staff

10 – 14 weeks

DESIGN DEVELOPMENT (informed design intervention)

Progress reviews as required

Jury Week – End of Semester

Presentation to Jury Panel at the Cleveland Clinic Ruvo Center for Brain Health

Date to be determined

V. Standard Provost's Statements

<http://www.unlv.edu/provost/policies-forms#P>

Academic Misconduct—Academic integrity is a legitimate concern for every member of the campus community; all share in upholding the fundamental values of honesty, trust, respect, fairness, responsibility, and professionalism. By choosing to join the UNLV community, students accept the expectations of the Student Academic Misconduct Policy and are encouraged when faced with choices to always take the ethical path. Students enrolling at UNLV assume the obligation to conduct themselves in a manner compatible with UNLV's function as an educational institution. An example of academic misconduct is plagiarism. Plagiarism is using the words or ideas of another, from the Internet or any source, without proper citation of the sources. See the *Student Academic Misconduct Policy* (approved December 9, 2005) located at: <https://www.unlv.edu/studentconduct/student-conduct>.

Copyright—The University requires all members of the University Community to familiarize themselves with and to follow copyright and fair use requirements. You are individually and solely responsible for violations of copyright and fair use laws. The university will neither protect nor defend you, nor assume any responsibility for employee or student violations of fair use laws. Violations of copyright laws could subject you to federal and state civil penalties and criminal liability, as well as disciplinary action under University policies. Additional information can be found at: <http://www.unlv.edu/provost/copyright>.

Disability Resource Center (DRC)—The UNLV Disability Resource Center (SSC-A 143, <http://drc.unlv.edu/>, 702-895-0866) provides resources for students with disabilities. If you feel that you have a disability, please make an appointment with a Disabilities Specialist at the DRC to discuss what options may be available to you. If you are registered with the UNLV Disability Resource Center, bring your Academic Accommodation Plan from the DRC to the instructor during office hours so that you may work together to develop strategies for implementing the accommodations to meet both your needs and the requirements of the course. Any information you provide is private and will be treated as such. To maintain the confidentiality of your request, please do not approach the instructor in front of others to discuss your accommodation needs.

Final Examinations—The University requires that final exams given at the end of a course occur at the time and on the day specified in the final exam schedule. See the schedule at: <http://www.unlv.edu/registrar/calendars>.

Incomplete Grades—The grade of I—Incomplete—can be granted when a student has satisfactorily completed three-fourths of course work for that semester/session but for reason(s) beyond the student's control, and acceptable to the instructor, cannot complete the last part of the course, and the instructor believes that the student can finish the course without repeating it. The incomplete work must be made up before the end of the following regular semester for undergraduate courses. Graduate students receiving "I" grades in 500-, 600-, or 700-level courses have up to one calendar year to complete the work, at the discretion of the instructor. If course requirements are not completed within the time indicated, a grade of F will be recorded and the GPA will be adjusted accordingly. Students who are fulfilling an Incomplete do not register for the course but make individual arrangements with the instructor who assigned the I grade.

Library Resources—Students may consult with a librarian on research needs. Subject librarians for various classes can be found here: https://www.library.unlv.edu/contact/librarians_by_subject. UNLV Libraries provides resources to support students' access to information. Discovery, access, and use of information are vital skills for academic work and for successful post-college life. Access library resources and ask questions at <https://www.library.unlv.edu/>.

Rebelmail—By policy, faculty and staff should e-mail students' Rebelmail accounts only. Rebelmail is UNLV's official e-mail system for students. It is one of the primary ways students receive official university communication such as information about deadlines, major campus events, and announcements. All UNLV students receive a Rebelmail account after they have been admitted to the university. Students' e-mail prefixes are listed on class rosters. The suffix is always @unlv.nevada.edu. **Emailing within WebCampus is acceptable.**

Religious Holidays Policy—Any student missing class quizzes, examinations, or any other class or lab work because of observance of religious holidays shall be given an opportunity during that semester to make up missed work. The make-up will apply to the religious holiday absence only. It shall be the responsibility of the student to notify the instructor within the first 14 calendar days of the course for fall and spring courses (excepting modular courses), or within the first 7 calendar days of the course for summer and modular courses, of his or her intention to participate in religious holidays which do not fall on state holidays or periods of class recess. For additional information, please visit: <http://catalog.unlv.edu/content.php?catoid=6&navoid=531>.

Transparency in Learning and Teaching—The University encourages application of the transparency method of constructing assignments for student success. Please see these two links for further information: <https://www.unlv.edu/provost/teachingandlearning>

<https://www.unlv.edu/provost/transparency>

Tutoring and Coaching—The Academic Success Center (ASC) provides tutoring, academic success coaching and other academic assistance for all UNLV undergraduate students. For information regarding tutoring subjects, tutoring times, and other ASC programs and services, visit <http://www.unlv.edu/asc> or call 702-895-3177. The ASC building is located across from the Student Services Complex (SSC). Academic success coaching is located on the second floor of SSC A (ASC Coaching Spot). Drop-in tutoring is located on the second floor of the Lied Library and College of Engineering TBE second floor.

UNLV Writing Center—One-on-one or small group assistance with writing is available free of charge to UNLV students at the Writing Center, located in CDC-3-301. Although walk-in consultations are sometimes available, students with appointments will receive priority assistance. Appointments may be made in person or by calling 702-895-3908. The student's Rebel ID Card, a copy of the assignment (if possible), and two copies of any writing to be reviewed are requested for the consultation. More information can be found at: <http://writingcenter.unlv.edu/>.

Any other class specific information—(e.g., absences, make-up exams, status reporting, extra credit policies, plagiarism/cheating consequences, policy on electronic devices, specialized department or college tutoring programs, bringing children to class, policy on recording classroom lectures, etc.)