
Description: The study of sensation and perception is central to learning how organisms behave in situations that are important for survival. Sensory processing and perception are also fundamental to communication through language, facial expressions, and the arts. This course will focus primarily on basic mechanisms of perceiving the external world using our senses (vision, hearing, touch, taste, smell, and the vestibular sense) and the research that led to our current understanding of how these processes function. Secondarily, the relevance for real-world behavior and disorders that affect sensory processing will be discussed.

Objectives: The main objective is to gain a basic understanding of the anatomy and physiology of the sensory systems. We will study the unique anatomy of these senses and the neuronal mechanisms that process their perception.

By the end of the semester you will not only have a solid understanding of the sensory systems, but also have a familiarity with neuroscientific methods and be able to apply these principles in a wide range of situations.

Learning Outcomes: At the end of the course, the student should be able to:

- Describe and evaluate how human sensory systems respond to energy in the physical environment (i.e. light waves, air pressure, chemical molecules, etc.), transforming it into a perceptual experience that the brain can understand (i.e. sight, sound, smell, etc.).
- Differentiate what characteristics of this physical energy lead to varying types of perception.
- Anticipate/propose how changes or malfunctions within sensory and perceptive systems can alter one’s perception.
- Justify how identical sensory input can lead to differing perceptual experiences within individuals, and thus, different behavioral outcomes.
• Compare and contrast the five sensory systems in terms of their sensory/anatomical set-up and perceptual organization.

Grades: Your grade will be based upon your performance on two examinations, multiple online participation activities, and one written commentary assignment.

The weighting of the course requirements is as follows:
- Midterm Examination (October 13th) 30%
- Final Examination (December 8th) 30%
- Participation (ongoing) 15%
- Journal club written assignment (November 10th) 25%

Grades follow UNLV standard policy, and are assigned as follows:
- A 94 to 100%
- A- 90 to 93%
- B+ 87 to 89%
- B 83 to 86%
- B- 80 to 82%
- C+ 77 to 79%
- C 73 to 76%
- C- 70 to 72%
- D+ 67 to 69%
- D 61 to 66%
- D- 55 to 60%
- F below 55%

Examinations: There will be two exams in this course. The exams will have a combination of multiple choice questions (~50% of the marks) and short answer questions (~50% of the marks). Short answer questions may involve some definitions and diagrams. The exams are not cumulative, and will cover lecture material only (this means that there will not be any questions from the recommended textbook that were not discussed in video lectures).

Lectures: PowerPoint and PDF slides along with a Youtube video link will be posted on Canvas prior to midnight on the date listed in the course schedule (see below). The slides should be downloaded and/or printed for note taking while you watch the video lectures. Please note that if you do not understand a particular concept as it is presented, please ask questions! It is your responsibility to let me know if you do not understand a particular concept or idea.

Participation: There will be participation questions presented during lecture videos throughout the term. Students will have at least 3 days to post their participation responses on Canvas after videos are posted (see course schedule below) to receive participation credit. No extensions will be granted, so please complete these short assignments early!
**Assignment**: The journal club assignment is a written review/commentary on a recent original research article of your choice that examines an issue related to the course (ie. Is an experiment (not a review) involving sensation and/or perception). Commentaries call attention to papers of particular note, highlighting the major points, commenting on potential implications and the significance for the field of sensation and perception. Rather than a critique (which looks at negative aspects of a paper), you are commenting on the strengths of the paper and why they are important: How has this study advanced the field, provided support for an existing theory or model, etc. You should discuss the new research in light of previous research in the field.

Your assignment should be approximately 1000-1200 words, double-spaced (not including references). You must also include at least 5 peer-reviewed references (cited and referenced in APA format!). You may use our textbook (and other course textbooks), but they do not count as peer-reviewed sources.

Further assignment information will be distributed and discussed on Canvas.

**Course Policies and Expectations**: Students are expected to watch all the video lectures. If students do not do so, they will be held responsible for all material covered as well as announcements that are made. Any participation activities that are missed cannot be made up.

**Canvas** - Your assignment must be submitted through Canvas. If you ever need help with opening or posting Canvas files, or with computer issues, it is your responsibility to call the 24/7 student help desk: 702-895-0761.

**Course Schedule**: Every effort will be made to manage the course as stated. However, adjustments may be necessary at the discretion of the instructor. If so, students will be advised and alterations announced on Canvas prior to implementation.

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Related Readings</th>
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<tbody>
<tr>
<td>Aug 25</td>
<td>Introduction / Overview</td>
<td></td>
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<tr>
<td>Sept 1</td>
<td>Neurobiology of Perception</td>
<td>Chapter 1</td>
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<tr>
<td>Sept 8</td>
<td>Vision: The Retina</td>
<td>Chapter 2</td>
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<td>Sept 15</td>
<td>Spatial Vision &amp; Space Perception</td>
<td>Chapters 3 &amp; 6</td>
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<tr>
<td>Sept 22</td>
<td>Perceiving and Recognizing Objects</td>
<td>Chapter 4</td>
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<tr>
<td>Sept 29</td>
<td>Perception of Color</td>
<td>Chapter 5</td>
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</table>
Oct 6  Attention and Motion Perception  Chapters 7 & 8
Oct 13  **Midterm Assessment**  
Oct 20  Hearing: Physiology and Psychoacoustics  Chapter 9
Oct 27  Hearing in the Environment  Chapters 10 & 11
Nov 3  The Vestibular System  Chapter 12
Nov 10  Touch (**Reminder: assignment due**)  Chapter 13
Nov 17  Olfaction  Chapter 14
Nov 24  Taste  Chapter 15
Nov 30  Study Week  
Dec 8  **Final Assessment**

**University Policies:**

**Public Health Directives**

Face coverings are mandatory for all faculty and students in the classroom. Students must follow all active UNLV public health directives while enrolled in this class. UNLV public health directives are found at https://www.unlv.edu/coronavirus/health-requirements. Students who do not comply with these directives may be asked to leave the classroom. Refusal to follow the guidelines may result in further disciplinary action according to the UNLV Code of Student Conduct, https://www.unlv.edu/sites/default/files/page_files/27/StudentConduct-Code.pdf, including being administratively withdrawn from the course.

**Academic Misconduct**

Academic integrity is a legitimate concern for every member of the University community. We 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 to always take the ethical path whenever faced with choices. Students enrolling at UNLV assume the obligation to conduct themselves in a manner compatible with UNLV’s educational mission. An example of academic misconduct is plagiarism. Plagiarism is using the words or ideas of another person, from the Internet or any other source without proper citation of the source(s). See the Student Conduct
Auditing Classes

Auditing a course allows a student to continue attending the lectures and/or laboratories and discussion sessions associated with the course, but the student will not earn a grade for any component of the course. Students who audit a course receive the same educational experience as students taking the course for a grade, but will be excused from exams, assessments, and other evaluative measures that serve the primary purpose of assigning a grade.

Classroom Conduct

Students have a responsibility to conduct themselves in class and in the libraries in ways that do not interfere with the rights of other students to learn, or of instructors to teach. Use of electronic devices such as pagers, cellular phones, or recording devices, or potentially disruptive devices or activities are only permitted with the prior explicit consent of the instructor. The instructor may rescind permission at any time during the class. If a student does not comply with established requirements or obstructs the functioning of the class, the instructor may initiate an administrative withdrawal of the student from the course.

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 copyright policy information is available at https://www.unlv.edu/provost/copyright.

Disability Resource Center (DRC)

The UNLV Disability Resource Center (SSC-A, Room 143, https://www.unlv.edu/drc, telephone 702-895-0866) provides resources for students with disabilities. Students who believe that they may need academic Office of the Executive Vice President and Provost Box 451002 • 4505 South Maryland Parkway • Las Vegas, Nevada 89154-1002 (702) 895-3301 • FAX (702) 895-4054 • http://www.unlv.edu/provost 2 accommodations due to injury, disability, or due to pregnancy should contact the DRC as early as possible in the academic term. A Disabilities Specialist will 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 on the date and at the time specified in the Final Exam schedule. The Final Exam schedule is typically available at the start of the semester, and the classroom locations are available approximately one month before the end of the semester. See the Final Exam Schedule, [https://www.unlv.edu/registrar/calendars](https://www.unlv.edu/registrar/calendars).

**Identity Verification in Online Courses**

All UNLV students must use their Campus-issued ACE ID and password to log in to WebCampus-Canvas. UNLV students enrolled in online or hybrid courses are expected to read and adhere to the Student Academic Misconduct Policy, [https://www.unlv.edu/studentconduct/misconduct/policy](https://www.unlv.edu/studentconduct/misconduct/policy), which states that “acting or attempting to act as a substitute for another, or using or attempting to use a substitute, in any academic evaluation or assignment” is a form of academic misconduct. Intentionally sharing ACE login credentials with another person may be considered an attempt to use a substitute, and could result in investigation and sanctions, as outlined in the Student Academic Misconduct Policy.

UNLV students enrolled in online courses are also expected to read and adhere to the Acceptable Use of Computing and Information Technology Resources Policy, [https://www.it.unlv.edu/policies/acceptable-usecomputing-and-information-technology-resources-policy](https://www.it.unlv.edu/policies/acceptable-usecomputing-and-information-technology-resources-policy), which prohibits sharing university accounts with other persons without authorization.

To the greatest extent possible, all graded assignments and assessments in UNLV online courses should be hosted in WebCampus-Canvas or another UNLV-managed platform that requires ACE login credentials for access.

**Incomplete Grades**

The grade of “I” (Incomplete) may be granted when a student has satisfactorily completed three-fourths of course work for that semester/session, but cannot complete the last part of the course for reason(s) beyond the student’s control and acceptable to the instructor, and the instructor believes that the student can finish the course without repeating it. For undergraduate courses, the incomplete work must be made up before the end of the following regular semester. 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 period indicated, a grade of “F” will be recorded, and the student’s GPA will be adjusted accordingly. Students who are fulfilling an Incomplete grade do not register for the course, but make individual arrangements with the instructor who assigned the “I” grade.

**Library Resources**

Librarians are available to consult with students on research needs, including developing
research topics, finding information, and evaluating sources. To make an appointment with a subject expert for this class, please visit the Libraries’ Research Consultation website, https://guides.library.unlv.edu/appointments/librarian. You can also ask the library staff questions via chat Office of the Executive Vice President and Provost Box 451002 • 4505 South Maryland Parkway • Las Vegas, Nevada 89154-1002 (702) 895-3301 • FAX (702) 895-4054 • http://www.unlv.edu/provost 3 and text message at https://ask.library.unlv.edu/.

Missed Classwork

Any student missing class, quizzes, examinations, or any other class or laboratory work because of observance of religious holidays will be given an opportunity during that semester to make up the missed work. The make-up opportunity will apply to the religious holiday absence only. It is the responsibility of the student to notify the instructor within the first 14 calendar days of the course for Fall and Spring courses (except for modular courses), or within the first 7 calendar days of the course for Summer and modular courses, of their intention to participate in religious holidays which do not fall on state holidays or periods of class recess. For additional information, please visit the Missed Work policy, under Registration Policies, on the Academic Policies webpage, https://catalog.unlv.edu/content.php?catoid=29&navoid=7326.

In accordance with the policy approved by the Faculty Senate regarding missed class time and assignments, students who represent UNLV in any official extracurricular activity will also have the opportunity to make up assignments, provided that the student provides official written notification to the instructor no less than one week prior to the missed class(es).

The spirit and intent of the policy for missed classwork is to offer fair and equitable assessment opportunities to all students, including those representing the University in extracurricular activities. Instructors should consider, for example, that in courses which offer a “Drop one” option for the lowest assignment, quiz, or exam, assigning the student a grade of zero for an excused absence for extracurricular activity is both contrary to the intent of the Faculty Senate’s policy, and an infringement on the student’s right to complete all work for the course.

This policy will not apply in the event that completing the assignment or administering the examination at an alternate time would impose an undue hardship on the instructor or the University that could be reasonably avoided. There should be a good faith effort by both the instructor and the student to agree to a reasonable resolution. When disagreements regarding this policy arise, decisions can be appealed to the Department Chair/School Director, College/School Dean, and/or the Faculty Senate Academic Standards Committee.

For purposes of definition, extracurricular activities may include, but are not limited to: academic recruitment activities, competitive intercollegiate athletics, fine arts activities, liberal arts competitions, science and engineering competitions, and any other event or activity sanctioned by a College/School Dean, and/or by the Executive Vice President and Provost.

Rebelmail

Rebelmail is UNLV’s official email system for students and by University policy, instructors and
staff should only send emails to students’ Rebelmail accounts. Rebelmail is one of the primary ways in which students receive official University communications, information about deadlines, major Campus events, and announcements. All UNLV students receive a Rebelmail account after they have been admitted to the University. Emailing within WebCampus-Canvas is also acceptable.

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, please visit the ASC website, https://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, Room 254. Drop-in tutoring is located on the second floor of the Lied Library, and on the second floor of the College of Engineering building (TBE A 207). Office of the Executive Vice President and Provost Box 451002 • 4505 South Maryland Parkway • Las Vegas, Nevada 89154-1002 (702) 895-3301 • FAX (702) 895-4054 • http://www.unlv.edu/provost

UNLV Writing Center

One-on-one or small group assistance with writing is available free of charge to UNLV students at the Writing Center, https://writingcenter.unlv.edu/, located in the Central Desert Complex, Building 3, Room 301 (CDC 3–301). Walk-in consultations are sometimes available, but students with appointments receive priority assistance. Students may make appointments in person or by calling the Center, telephone 702-895-3908. Students are requested to bring to their appointments their Rebel ID Card, a copy of the instructions for their assignment, and two copies of any writing they have completed on their assignment.

Diversity Statement

As an institution of higher learning, UNLV represents a rich diversity of human beings among its faculty, staff, and students, and is committed to aspiring to maintain a Campus environment that values that diversity. Accordingly, the University supports understanding and appreciation of all members of its community, regardless of race, sex, age, color, national origin, ethnicity, creed, religion, disability, sexual orientation, gender, gender identity, marital status, pregnancy, genetic information, veteran status, or political affiliation. Please see University Statements and Compliance, https://www.unlv.edu/about/statements-compliance.

A successful learning experience requires mutual respect and trust between the students and the instructor. Accordingly, the instructor asks that students be willing to listen to one another’s points of view, acknowledging that there may be disagreements, keep discussion and comments on topic, and use first person, positive language when expressing their perspectives.