

SENSATION AND PERCEPTION PSYC 225

Text: Foley, H. J., & Matlin, M. W. *Sensation & Perception*, Fifth Edition (2010). Allyn & Bacon.

Goals of the course:

- This course will survey the major sensory systems and cover the significant theories of sensation and perception. The course is designed to provide you with a detailed understanding of historical treatments of sensation and perception, as well as current theoretical formulations. In addition, it will provide a detailed discussion of major sensory and perceptual impairments, including blindness and deafness. The class is also designed to enhance critical scientific thinking. The course is targeted toward psychology majors at the sophomore/junior level, but will be of benefit to students majoring in education, communication disorders, art, biology: premed, optometry, and a host of other areas. The class will cover content that will be useful for an educated citizen, as well as help provide preparation for the content exam on the GRE. The prerequisite is Psychology 101, General Psychology.

Course Requirements

- Students are expected to attend all classes, and on time. Please arrive on time and plan to stay for the full class period. Do not use cell phones in class, or text in class. You are not here if you are texting or surfing the net during class time. Please do not walk in and out of the classroom during class time, as this is distracting to the class.
- If you are ill, absences will be excused. However documentation may be requested. Absences for approved university activities and family emergencies will be excused, with documentation. More than 3 unexcused absences may lead to notification to appropriate Deans. Examinations must be taken when scheduled, and makeups will only be given when documentation is provided.

Tests and the Final Exam

- Three examinations (this includes the final) will be given. The three examinations will be evenly spaced over the semester. The final examination will be cumulative, and the four grades (3 exams and the paper/essay grade) will be evenly weighted. There will be an emphasis on the more recent material on the final. The final exam will be **Friday, May 1 at 8 AM**, as this is indicated by the university schedule and policy.

Papers

- There will be two essays, and a term paper for the class. Each of the brief essays will be 2 typed, double-spaced pages (500 words; do not use courier). The 6 page paper will be due later in the semester (**April 2**). If a paper, or essay, is turned in late, the grade will be dropped one full grade for each week (or part of a week) it is late, i.e., if it is one day late,

an A will become a B. If the paper is submitted 8 days late, an A will be reduced to a C, etc. ... unless there is clear evidence of illness or another appropriate excuse.

- Students will be required to write a brief paper based on library research in perception. The typed paper (6 pages minimum) must be based on library research in psychology. The basis for the paper must be primary sources in perception (i.e. at least 5 sources, e.g., refereed journal articles, scholarly books, and so forth). Secondary sources are not appropriate. Proposals for papers must be submitted by midterm (**March 5**) for approval. Do **NOT** base readings on general psychology books, perception texts, encyclopedias, popular magazines, or newspapers or newsletters. Web journals are acceptable, but **web sites are not. Do not include web sites or our text as references for your paper (with very few exceptions)**. For example, the NIH website is a secondary source. A term paper is not a book report - do not use excessive quotes. Papers will be due by **April 2**. If your paper is graded fair or lower (C or lower), you will have a chance to rewrite the paper (once). You may only be able to raise your grade by one grade level by revising it. However, you will forfeit this option if your paper is turned in late or if it is shorter than 6 pages. Any revised papers will be due by the last day of classes; be sure to discuss your paper with me if you wish to revise it. Do not use excessive quotes. Excessive quotes make for a fair paper grade, at best. Your sources should be scholarly. Use APA format for references, NOT MALS! If you do not have an author, the source is not a primary reference. There is no option to revise the essays.
- Papers shorter than 6 pages will receive a poor or fair grade, e.g. if it is 1/2 page short, the grade will drop by at least 10%. The penalty for a short paper will depend upon length – **do not use excessive quotes**. Use 12 pt. Helvetica or Times font; courier is not acceptable. A page is approximately 250 words. I do not accept papers by email, only hardcopy.
- You are encouraged to see me to discuss your topics.

Brief Essays

- Essay 1 Due **Jan 29**
 - Select a sensory/perceptual system. Discuss the importance of the sense for normal functioning. Discuss the impact of a perceptual impairment, that is, a deficiency in this sense. You should also discuss methods used to compensate for the loss of the selected sense. These methods may involve rehabilitation and education, or compensatory mechanisms.
- Essay 2 Due **March 5**
 - Discuss the application of knowledge about perceptual or sensory theory to practical human problems. For example, how is knowledge about touch perception important for the development of prosthetic devices? Other possible applications of perceptual or sensory theory involve robotics, special education, education, pain and its amelioration, and new technology (e.g. virtual reality, web design, etc.).
- There will not be any opportunity to revise these brief essays. If you have questions about whether your approach is appropriate, please discuss this with me.
- Each essay will count as 20 pts. towards your total paper grade. The longer paper will be worth 60 pts. towards the writing grade (**4/2**). The total paper/essay writing grade will count as much as one of the exams.

Grading Scale

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| 93-100 | A |
| 90-92 | A- |
| 87-89 | B+ |
| 83-88 | B |
| 80-82 | B- |
| 77-79 | C+ |
| 73-76 | C |
| 70-72 | C- |
| 67-69 | D+ |
| 60-66 | D |
| 0-59 | F |

- Note that an A represents excellent work, with a high level of performance. On a paper, it indicates a thoughtful presentation at a high theoretical level, with superior writing. A B grade is good work, a C is just fair. A grade of D is poor, and an F is unsatisfactory. Grades in writing reflect the quality of the writing and the quality and level of the psychological ideas that are presented. The purpose of the paper and writing assignments is provide an opportunity to demonstrate what you have learned about sensation/perception beyond what is presented in the text or class content.
- Attendance is encouraged. Class participation will be *considered* in grading. Positive class contributions can shift a final grade up by as much as 3 points. Students must take exams when scheduled. If an illness prevents you from taking an exam, see me to discuss a make-up. A medical note will be required. Excessive absences may have a negative effect on a grade.
- You may earn extra credit (up to 2 pts. On your average) by writing brief reports derived from perceptual lab software.

Honor Code

- Students at UNC are bound by the Honor Code. All class work is to be done by the individual student, and the use of notes or cell phones during exams constitutes a violation of the honor code. Take care to avoid plagiarism from any source. Be sure to use your own words in your papers and essays.

Note- Dates, times, assignment dates and content area for class meetings may be modified by the course instructor, as appropriate.

Outline

| Topic | Chapter |
|---------------------------------------------------------------------------------------|---------------------------------------------|
| Introduction: Sensation vs. Perception, consciousness Is perception normally accurate | Text, Introductory Chapter 1. Jan. 8 |
| Classification of the Senses | Jan. 13 |
| History | Jan. 15 |

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| Cutaneous Sensation: Theories of Specificity, pattern theories, etc. sensory circles, projective fields and the constancy hypothesis spatial factors, phantom limbs, body image pain | Text chapter 12 Jan. 20 Jan. 22 Jan. 27 |
| Brief Introduction to Classical Psychophysics | 16-21, 33-39; Jan. 27 |
| Haptic Perception – Active and Passive Touch; Touch: Effects of Brain or Peripheral Neural Damage | Jan. 29 |
| <u>First Essay due Jan. 29</u> | |
| Intermodal Relations Vision and touch; Visual Impairment: Braille, Sensory Aids for the Blind, Spatial Cognition in Blindness: Mobility, maps; pictures for touch | Chap. 12 Feb. 3 Feb 5 |
| | Feb. 10 TEST |
| Perceptual Learning & Development: Theories of perception, form perception/gestalt laws, pattern recognition theories: template, prototype/schema/distinctive features, others | Chap. 14 Chapter 5, Feb. 12 Feb. 17 |
| Historical Background Theory: American Functional Psychology | Feb. 19 |
| Piaget | Feb. 24 |
| Helmholtz Unconscious Inference: Illusions in Vision and Touch | Feb. 26 |
| Clinical Neuroscience what vs. where functions of vision: Ungerleider and mishkin; goodale and milner | March 3 |
| Sensory and Perceptual Symptoms of Brain Damage | March 5 |
| | Second essay due March 5 |
| Vision | 46-58 |
| Physiology and anatomy | March 17 |
| Spring Break March 6-March 15 | |
| | Test March 19 |
| Acuity | 100-106, March 24 |
| Space & Depth Perception | 6, March 24,26 |
| Color Vision & Color Blindness | 7, March 31 |
| Laterality | April 2 |
| Sex difference in perception, including field dependence, body image | April 7 |
| | Paper due April 2 |
| Audition: the Stimulus, physiology and anatomy | 10, April 9 |
| Pitch Perception, deafness: causes and treatments | April 14 |
| Gustation | April 16 |
| Olfaction and time perception | Chap. 13, April 16 |

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| Applications: robotics, sensory prosthetics, virtual reality | April 21 |
| Final Class Meeting – Review | April 23 |

Final Exam – May 1, 8:00Am

- Recommended Readings:
 - Heller, M. A., & Schiff, W. (Eds.). (1991). *The psychology of touch*. Erlbaum Associates.
 - Heller, M. A., & Ballesteros, S. (Eds.). (2006). *Touch and blindness: Psychology and neuroscience*. Mahwah, NJ: Lawrence Erlbaum Associates.
 - Heller, M. A., & Gentaz, E. (2014). *Psychology of touch and blindness*. New York: Taylor and Francis.
 - Heller, M. A., & Ballesteros, S. (2015). Visually Impaired Touch. Scholarpedia, http://www.scholarpedia.org/article/Visually-impaired_touch