

**Sensation and Perception (Basic Psychology: Perception)**  
**PSYCH 310**  
**Spring, 2005**

**Instructor:** Dr. Dennis Shaffer

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**Class Time:** TTH 3:00-4:35

**Classroom:** 225 Ovalwood Hall

**Reading Textbook:**

Goldstein, E. B. (2002). *Sensation and Perception* (6<sup>th</sup> Ed.) Wadsworth: Pacific Grove, CA.

**Helpful Web Page:** [http://www.wadsworth.com/psychology\\_d/](http://www.wadsworth.com/psychology_d/). Press the mouse button on the part of the brain to which Student Resources is pointing. Click on your book. This gives you a tutorial quiz and workshop for each chapter, along with a crossword puzzle that I think is very helpful.

**Course Description:**

This course is designed to introduce you to our senses and how we ascribe meaning to the environmental (physical) energy around us. We will review principles of perception and models of how perceptual information is represented. Lectures, demonstrations and readings will complement each other. The major topics will be measurement methodology, perceptual dimensions, vision, audition, gustation, olfaction and space and motion perception. In this course you will gain an understanding of and appreciation for the complex processes involved in your experience with the world around you.

**Course Mechanics:**

In order to accomplish these goals, you will be expected to fully participate in scheduled class sessions. In general, classes are a mixture of lecture, demonstrations, video and discussion. Although I do not count attendance toward your grade, missing class will adversely affect your grade. If you do not come to class you remain responsible for all material covered in class and for any announcements. Lectures cannot possibly cover everything contained in the textbook. Therefore, some of the material in the text will not be dealt with in class. This does not mean that the material is unimportant--only that there is not enough time to cover it in class. Conversely, there will be times that I will discuss material in the lecture that is not covered in the text. In other words, you should pay attention to both material in the text and in the lecture when studying for exams.

**Course Requirements and Evaluation:**

You should read the assignments in the text and perform any readings or other tasks asked of you outside of class before the following class session. Generally you will need to read the assignments several times and couple this with lecture in order to grasp the material. It generally takes longer to read and understand material in S&P texts compared to other texts, *so be prepared.*

**Exams:**

There will be three (3) graded examinations given throughout the semester. Each exam will be worth 33.33% of your final grade. The dates for the exams are listed on the course outline. None of the exams is cumulative. However, although the exams are not cumulative, understanding subsequent material covered in class is dependent upon understanding the material that has been covered previously. The questions will be mostly multiple choice, fill in the blank, short answer, and identification. The questions may be from information from the text, lecture, demonstrations, videos, handouts, or reading assignments. However, the majority of the questions will be from topics covered in lecture.

**Grading:**

As described above, your grade is based on 3 exams that are worth 100% of your total grade. The cutoffs will be as follows

A	94% - 100%
A-	90% - 93%
B+	87% - 89%
B	84% - 86%
B-	80% - 83%
C+	77% - 79%
C	74% - 76%
C-	70% - 73%
D+	67% - 69%
D	60% - 66%
E	Below 60%

**Make-up Exams**

Exams can be made up only if the student has a medical or family emergency. Written evidence of the emergency must be provided either before the exam or as soon as possible after the exam. The instructor reserves the right to decide on the adequacy of excuses. Make-up exams will be either oral or all essay. A special test session will be used for giving all make-up exams. *See me at once* if you miss an exam or when you anticipate missing an exam. You must see me, in person, in my office for this.

**Academic Dishonesty:**

Cheating on exams and/or quizzes, or plagiarizing someone else's work will not be tolerated. Plagiarism is when you cite or discuss another person's work as your own. If you would like to use someone else's ideas, summarize their work *USING YOUR OWN WORDS* and then *CITE THEIR WORK* using the accepted American Psychological Association's (APA) Guidelines. If you are caught being academically dishonest, I will report the incident to Ohio State and you will be subject to punishment from the university that includes, but is not limited to receiving a failing grade for that exam. If you are still not sure what is considered academically dishonest, please see me.

**Conduct:**

University college students, like all members of the OSU community, are expected to conduct themselves maturely. A student who infringes on the rights of others or who in any way disturbs orderly academic functions may be subject to probation, suspension, or dismissal. Physical or verbal abuse of any person, theft of, or damage to University property, unauthorized entry of University facilities, disruption of teaching or administration, misuse of University documents, or knowingly furnishing false information to the University is grounds for such disciplinary action.

*I also expect that: Students will not talk when the instructor is lecturing so it disrupts the concentration of other students or the instructor, and that cell phones will be turned off or turned to vibrate while class is in session.*

**Students with Disabilities:**

In accordance with University policy, if you have a documented disability and require accommodations to obtain equal access in this course, please contact me at the beginning of the semester or when given an assignment for which an accommodation is required. You will also need to speak with Michelle McLane at the Office of Disability Services to discuss your special needs. You can contact Michelle by calling (419) 755-4304 or visit her at C-100E Conard Learning Center in order to coordinate reasonable accommodations.

**Special Requests:**

1. Stop by my office and visit me sometime.
2. Ask at least one question in class during the semester.
3. Bring me a newspaper or magazine article, or a comic related to this class.

## Class Schedule

This outline can only be an approximate guide; dates for particular lecture topics may change, and material may be added or deleted. However, the dates and material for the exams will be as listed unless changes are absolutely necessary. If changes affecting exams are made, they will be announced in class as soon as possible. Lecture dates in this outline are used to identify lecture topics to be covered on exams.

<u>Day</u>	<u>Topic</u>	<u>Reading Assignment</u>
<b>SECTION I: MEASUREMENT, BASIC PERCEPTION, AND LOW-LEVEL VISION</b>		
3/27 (Tues.).....	Introduction to the course	<i>none</i>
	The seven blind men and the elephant: Perspectives on studying perception	<i>Chapter 1, pp 1-11</i>
3/29 (Thurs.).....	Psychophysics and methods of measurement Psychophysical laws: Weber, Fechner, and Stevens. Signal detection theory: Unbiased sensitivity measure.	<i>Chapter 1, pp. 11-18</i> <i>Appendix A</i>
4/3 (Tues.).....	Signal detection theory: Unbiased sensitivity measure.	<i>Appendix A</i>
	Introduction to physiology. Nature of neural activity. Basic structure and function of the brain.	<i>Chapter 1, pp. 18-29</i>
4/5 (Thurs.).....	Introduction to physiology. Nature of neural activity. Basic structure and function of the brain. <i>Video Clip: The divided brain.</i>	<i>Chapter 1, pp. 18-29</i>
4/10 (Tues.).....	The visual system: Physics and physiology. Physics of light. Physiology of the eye. Neural processing of the retina. <i>Video clip: Practical applications—Smart glasses.</i>	<i>Chapter 2</i> <i>Chapter 16</i> <i>(pp.545-564)</i>
4/12 (Thurs.).....	Visual information flow, organization, and processing in the lateral geniculate nucleus (LGN), and striate cortex.	<i>Chapter 3(pp. 77-85</i> <i>&amp; 95-104).</i>
	Higher-level visual processing. Visual processing streams & extra striate areas related to vision.	<i>Chapter 4</i>
4/17 (Tues.).....	Higher-level visual processing. Visual processing streams & extra striate areas related to vision.	<i>Chapter 4</i>

Basic visual properties: Color vision. *Chapter 6*  
The color stimulus. Color processing theories.  
Color factors, irregularities, and physiology.

4/19 (Thurs.).....Basic visual properties: Color vision. *Chapter 6*  
The color stimulus. Color processing theories.  
Color factors, irregularities, and physiology.

**4/24 (Tues.) .....EXAM #1.....**

## **SECTION II: AUDITION, OLFACTION, GUSTATION, AND SOMATOSENSATION**

4/26 (Thurs.).....The auditory system: Physics and physiology *Chapter 10*  
Physics of sound, terms, Fourier addition. *Chapter 16.*  
Physiology of the ear, cochlea, and auditory pathways. *(pp. 564-579)*

5/1 (Tues.).....Hearing: Detection, localization, and dimensions of *Chapter 11*  
of sound. Detection, discrimination, and localization of sound.  
Psychophysical dimensions: Loudness and timbre.  
Theories of pitch perception. Auditory scene analysis.

5/3 (Thurs.) Gustatory physiology and cortical pathways. *Chapter 14*  
Taste threshold, adaptation, intensity, and qualities. *(pp. 487-499).*  
*Video clip: Tasters and super tasters.*

Olfactory physiology and cortical pathways. *Chapter 14*  
Smell thresholds, adaptation, intensity, and qualities. *(pp. 473-486 &*  
Pheromones. Conditioning pleasant and unpleasant odors. *499-505).*

5/8 (Tues.).....Pheromones. Conditioning pleasant and unpleasant odors.

Somatosensory physiology and cortical pathways. *Chapter 13*  
Phantom limbs.

5/10 (Thurs.).....**EXAM #2.....**

## **SECTION III: SPACE, FORM, AND EVENT PERCEPTION**

5/15 (Tues.).....Space perception *Chapter 7*  
Theoretical approaches to depth perception. *(pp. 225-247)*  
Pictorial (monocular), physiological, & motion-based depth cues.  
Binocular depth cues.

- 5/17 (Thurs.).....Form, orientation, and object perception. **Chapter 5**  
 The 3-D representation. Form perception/organization. **(pp. 145-160 &**  
 Gestalt laws of perceptual organization. **172-181).**  
 Top-down representations.
- 5/22 (Tues.).....Motion perception. Eye movements **Chapter 8**  
 Physiological motion detectors. Apparent motion. **Chapter 9**  
 Five ways to make lights move. **(pp. 301-309 &**  
**312-315).**
- The vestibular sense and motion perception **Chapter 9**  
**(pp. 310-311 & 315).**
- 5/24 (Thurs.).....Constancy and illusions. **Chapter 7**  
 Perceptual constancies. Regularity of stimuli in the **(pp. 248-260)**  
 the world. 3-D constancy illusions: Slant perception.  
*Video clip:* Cockpit confusion.
- 3-D constancy illusions: Traffic lights and lines on the road
- 5/29 (Tues.).....Motion perception. **Chapter 9, p. 314**  
 Tracking baseballs: Locating pitches and outfield fly balls.  
 How dogs navigate to catch Frisbees.
- Intuitive physics and perception. Judging where the **none**  
 apex of a fly ball is and predicting where a fly ball will land.
- 5/31 (Thurs.).....Visual awareness: Change blindness and **none**  
 Change blindness blindness.  
*Video Clip:* Change Blindness

**JUNE 9 THURSDAY, 1:30-3:18--FINAL EXAM--EXAM #3**