

# PSYCH 388: SENSATION AND PERCEPTION

SPRING SEMESTER, 2011

MON 4:00-6:40, AH 2108

<b>INSTRUCTOR:</b>	Lisa Delano-Wood, Ph.D.
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**Course Description:** How do we see and hear? How does the brain make sense of all the sensory inputs it gets to produce the rich perceptual world you experience? This course will attempt to answer questions like these by providing an introduction to human sensory and perceptual systems. We will discuss the profound philosophical issues underlying the study of perception and the mind, the common methods by which sensations and perceptions can be measured (psychophysics), and the anatomy and physiology of the human visual and auditory system. Later in the semester, we will examine the manner in which various dimensions of visual stimuli are perceived, including color vision, depth and space perception, motion perception, visual form perception, and pattern recognition. We will learn how the anatomy and physiology of the eye and ear (and related parts of the brain) allow us to understand speech, perceive color, see motion and depth, and even recognize faces.

Our senses are the bridge between ourselves and the world. All of our knowledge and experience about the external world—from our favorite songs, to the feeling of sunlight on our skin, to the expressions on a loved one's face—is the results of sensory and perceptual processing. Some philosophers have gone as far as to claim that without sensory experience, people would not be conscious at all. The basic topic of this class is the psychological study of the relationship between the external world and our internal experience.

## **Course Goals:**

The goals of this class are: (1) To provide a basic understanding of the senses. How do they work? What do they enable us to do? What are their limitations? (2) To understand the types of issues that scientists in this field find interesting, to understand why they are interesting, and to understand the basic research methods that are used to address them. (3) To understand the real-world applications of perception research. (4) To understand the roles of evolution, development, society, prior knowledge, and inference in our perceptual judgments and our conscious experiences.

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## **Course Materials:**

**Textbook:** The required text for the course is Wolfe, J.M., Kleunder, K.R., Levi, D.R., et al. (2008) Sensation and Perception (2<sup>nd</sup> edition). Sinauer Associates, Inc: Sunderland, MA.

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**Textbook Website:** [www.sinauer.com/wolfe/home.startF.htm](http://www.sinauer.com/wolfe/home.startF.htm) (VERY HELPFUL!! This website contains more detail about tough concepts replete with illustrations and demonstrations. There are also practice test questions and essays).

**COGLAB Website:** <http://coglab.wadsworth.com/>

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## COURSE REQUIREMENTS

**Exams:** there will be 3 non-cumulative tests (each worth 30% of your total grade). They will consist of true/false, multiple choice, and short answer questions covering topics discussed in class and in readings (75 questions on each exam). Tests are designed to last no more than 60-70 minutes.

**Assignments:** Throughout the course, students will participate in 3 COGLAB experiments online. More detail about both of these assignments is listed below.

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**COGLAB assignments:** All students are expected to hand in responses to questions for each lab. The worksheets for each lab will be posted on Blackboard roughly one week before they are due. The labs will be worth ~3% of your grade and, in total, they will be collectively weighted to comprise 10% of your final grade.

**Important:** To access the COGLAB website, you'll need to go to <http://coglab.wadsworth.com/> First you will need to click on the experiment that you plan to complete. Then you need to sign in at the bottom of the next webpage. Our class ID is **PSY388-0**. Password is **goaztecs**

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**Extra credit:** Extra credit will be available periodically throughout the course and will typically be offered during class at the instructor's discretion. Extra credit will be designed to enhance learning of the material so it benefits the students in two ways—boosts final grade a bit and likely improves test grades.

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## GRADING SCALE

A:	93 - 100%	B-:	80 – 83%	D+:	67 – 69%
A- :	90 - 92%	C+:	77 – 79%	D:	64 – 66%
B+:	87 - 89%	C:	74 – 76%	D-:	60 – 63%
B:	84 - 86%	C-:	70 – 73%	F:	59% or lower

- Two in-class exams (30% each, 30% total)
- Final exam (30%)
- COGLAB assignments: (~3% each, will be weighted for 10% of total grade)

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**Policy on Make-up Exams/Assignments:** The syllabus indicates dates for all tests and assignments, so please plan accordingly. Students who miss an exam because of a conflicting professional or personal commitment must make prior arrangements with the instructor. You must arrive on time for the exams since no additional time will be given. If an examination must be missed due to illness, a doctor's note is required. Short-answer or essay make-up exams may be scheduled under extraordinary circumstances ONLY if the instructor is contacted PRIOR to the exam, and make-up exams must be taken before the next class period. Missed COGLAB assignments cannot be completed at a later date for credit.

*Attendance:* While I do not take attendance, missing class will likely significantly negatively impact your grade as not all material on tests is covered in the book. When you miss class, you alone are responsible for mastering the missed material by getting notes from a classmate. Also, sometimes extra credit for attendance is given.

### **ACADEMIC HONESTY**

SDSU defines plagiarism as “the act of incorporating ideas, words, or specific substance of another, whether purchased, borrowed, or otherwise obtained, and submitting same to the University as one’s own work to fulfill academic requirements without giving credit to the appropriate source.” Plagiarism constitutes a violation of the University Judicial Code. All work handed in for this class must be a product of your own, original work. Also, you must never permit another student to cheat from your exam or assignments. Suspected academic dishonesty will be considered very seriously and a report will be filed with the SDSU Office of Judicial Affairs. All incidents of suspected cheating and plagiarism will be fully investigated and, if confirmed, will lead to a failing grade in the class. Please contact me if you have any questions or concerns.

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### ***Students with Disabilities:***

Students requesting classroom accommodation must first register with Student Disability Services. Student Disability Services will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation.

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### ***Disclaimer:***

Information in this syllabus is subject to change at any time and any changes made will be announced during class and posted on Blackboard. It is the student’s responsibility to attend to these announcements (i.e., attend class, check Blackboard 2-3 times weekly).

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## **Course Calendar**

<i>DATE</i>		<i>TOPIC</i>	<i>READING</i>	<i>ASSIGNMENT</i>
<b>Week 1</b>	Mon 1/24	<b>--Distribution of Syllabus --Intro to Course</b>		
<b>Week 2</b>	Mon 1/31	<b>--Intro to Sensation &amp; Perception</b> *Philosophy of Perception *Psychophysics	Chapter 1	
<b>Week 3</b>	Mon 2/7	<b>--The First Steps in Vision</b> *Light and the Eye *Retina *Retinal Information Processing	Chapter 2	

<b>Week 4</b>	Mon 2/14	<b>--Spatial Vision</b> *Retinal Ganglion Cells & Stripes *LGN *Striate Cortex *Columns & Hypercolumns	Chapter 3	<b>COGLAB #1</b> <b>Due (2/14)</b> <b>Blind Spot</b>
<b>Week 5</b>	Mon 2/21	<b>--Object Perception</b> *Middle Vision *Object Recognition *Objects in the Brain	Chapter 4	
<b>Week 6</b>	Mon 2/28	<b><u>**EXAM 1—MON 2/28</u></b>		
<b>Week 7</b>	Mon 3/7	<b>--Color Perception</b> *Basic Principles *Opponent Processes *Color Blindness *Color Constancy	Chapter 5	
<b>Week 8</b>	Mon 3/14	<b>---Space Perception &amp; Binocular Vision</b> *3-D Space *Linear Perspective *Motion Cues *Binocular Vision & Stereopsis *Combining Depth Cues	Chapter 6	<b>COGLAB #2</b> <b>Due (3/14)</b> <b>Muller-Lyer Effect</b>
<b>Week 9</b>	Mon 3/21	<b>--Motion Perception</b> *Visual Motion *Eye movements	Chapter 7	
<b>Week 10</b>	Mon 3/28	<b>**Holiday—Spring Break</b> <b>**No Class**</b>		

<b>Week 11</b>	Mon 4/4	<b>--Attention and Scene Perception</b> *Selection in Space *Visual Search *Attentional Blink *Physiological Basis of Attention *Disorders of Visual Attention *Perceiving & Understanding Scenes	Chapter 8	<b>COGLAB #3 (4/4) Attentional Blink</b>
<b>Week 12</b>	Mon 4/11	<b><u>**EXAM 2—MON 4/11**</u></b>		
<b>Week 13</b>	Mon 4/18	<b>--Hearing: Physiology &amp; Psychoacoustics</b> *Qualities of Sound Waves *Basic Structure of the Ear *The Auditory Nerve *Intensity & Loudness *Hearing Loss	Chapter 9	
<b>Week 14</b>	Mon 4/25	<b>--Touch</b> *Physiology of Touch *Pain *The What/Where Systems for Touch *Pain Control and Treatment *Phantom Limb Pain	Chapter 12	
<b>Week 15</b>	Mon 5/2	<b>--Olfaction</b> *Olfactory Physiology *Theories of Olfactory Perception *Olfactory Identification & Adaptation *Olfaction, Memory, & Emotion	Chapter 13	
<b>Week 16</b>	Mon 5/9	<b>--Taste</b> *Taste versus Flavor *Anatomy & Physiology *The Four Basic Tastes *The Pleasure of Taste	Chapter 14	
<b>Week 17</b>	Mon 5/16	<b><u>**EXAM 3—MON 5/16</u></b>		