

PSYC 216  
Sensation & Perception  
MWF 10:00-10:50AM  
Clough 118

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Office hours: M-Th 11-12pm  
or by Appointment

**REQUIRED TEXT:** Goldstein, EB (2002) Sensation & Perception, 6th Edition (Media).  
Pacific Grove, CA: Wadsworth Group.

### **COURSE DESCRIPTION:**

This course examines how we experience (sensation) and interpret (perception) our external world. As such, we will explore the anatomical organization and physiological functioning of the various sensory organs as well as the steps involved in the transformation of this disconnected raw sensory information into a greater perceptual whole via higher brain regions. We will use vision as a model system to describe many basic perceptual principles, which will aid us in our examination of other sensory systems (audition, olfaction, taste and the cutaneous senses). The initial portion of this course will emphasize the bottom-up approach to perception, focusing on how information processing occurs hierarchically from the simplistic to the more complex. Latter portions of the course will emphasize a top-down approach whereby higher cognitions influence the perceptual outcome. The format of the course will include lectures, class discussion, independent assignments, and in class presentations.

**CLASS ANNOUNCEMENTS:** Announcements concerning the class will be made in class and/or via e-mail. Therefore, if you attend class and check your Rhodes e-mail account frequently, you will be sure to be up-to-date.

**CLASS SCHEDULE:** The following schedule is tentative. We may take more time in some sections and less in others. Exam dates will not change.

			<b>Additional Readings/Assignments</b>
1/11		Introduction	Girkin & Miller (Central Disorder Tutorial)
<b>I Visual Processing</b>			
1/13-1/18	Chpt. 1	Neurophysiology & Experimental Methods	Appendix A (SDT)/ <a href="http://psych.hanover.edu/JavaTest/Media/Chapter01.html">psych.hanover.edu/JavaTest/Media/Chapter01.html</a> Necker & Jastrow Assignment
1/20-1/25	Chpt. 2	Receptors & Processing	Hermann Grid Assignment Submit Research Ideas
1/27-2/1	Chpt. 3	LGN & Striate Cortex	Sacks (The man who mistook his wife for a hat) Sacks (To see and not see) Haxby (Face Perception) Formation of Groups
2/3-2/8	Chpt. 4	Higher Processing	Ramachandran (Chpt.4) –Zombies in the Brain Visual Processing Assignment
<b>2/10</b>	<b>EXAM I (Chp. 1-4)</b>		
<b>II Higher Visual Processing</b>			
2/13-2/17	Chpt. 5	Objects	Ramachandran (Synesthesia) Gestalt Assignment
2/20-2/24	Chpt. 6	Color	Sacks (The Colorblind Painter) Submit Presentation outline
2/27-3/1	Chpt. 7	Depth & Size	Lee (Physiology of Top-Down Processing) Other Illusion Assignment (Visual)
3/3-3/8	Chpt. 8	Movement	Roskies (The Binding Problem) Binding Problem Assignment
<b>3/10</b>	<b>EXAM II (Chp. 5-8)</b>		

III Auditory, Cutaneous & Chemical Senses			
3/20-2/24	Chpt. 10	Audition	
3/27-3/29	Chpt. 11	Localization & Quality	Bregman (Auditory Scene Analysis) Other Illusion Assignment (Not Visual) – Media from Dr. Lloyd? Presentation
3/31-4/5	Chpt. 12	Speech	<a href="http://www.aip.org/148th/deutsch.html">www.aip.org/148th/deutsch.html</a> Deutsch (Absolute Pitch) Presentation
4/7-4/17	Chpt. 13	Cutaneous Senses	Ramachandran (Chp 2)- Knowing where to scratch Ramachandran (Chp 3)- Chasing the phantom Presentation
4/19-4/26	Chpt. 14	Chemical Senses	Presentation
	<b>EXAM III (Chp. 10-14)</b>		Take Home Exam (to be discussed in class)

**COURSE MATERIALS:** [\\Fileserver1\acad\\_dept\\_pgm\Psychology\Lloyd\\_Steven](\\Fileserver1\acad_dept_pgm\Psychology\Lloyd_Steven)

### GRADING:

Exam 1	100 points
Exam 2	100 points
Exam 3	100 points
Assignments	50 points
<u>Presentation</u>	<u>50 points</u>
Total	400 points

**EXAMS:** The format of the exam will depend on the content we are covering. However, most of the questions will be short answer/essay. I typically ask questions that require you to show your understanding of the material and not your propensity to memorize information. Take-home exams are a possibility (to be discussed in class) and the likely format for the non-comprehensive final exam.

**ASSIGNMENTS:** Various tasks will be assigned to you throughout the semester. Most of the assignments will entail answering questions on additional reading material that I will provide for you. Additional tasks may include, but are not limited to, library/internet research, critical evaluation of primary literature, answering questions on handouts, etc. I reserve the right to add additional class assignments as I see fit. Assignments must be turned in at the beginning of class on the date due. Late submissions will not be accepted or graded. I am going to be very strict on this requirement as the purpose of many assignments will be to generate class discussions.

### PRESENTATION:

**Option 1:** I would like you to read the Girkin & Miller (2001) tutorial available in my Academic Folder. This review highlights several central disorders resulting from brain injury or trauma that produce specific perceptual deficits in the visual system, yet help us to understand something about our how our perceptual systems operate. Your first task will be to choose 3 of these disorders or similar disorders associated with different sensory systems (preferred) that you would like to present.

**Option 2:** Come up with your own research topic that is within the scope of this class and, preferably, fits within the material from the last section of the class (Chapters 10-14). Feel free

to come up with some crazy, fun ideas. The only caveat is that the goal of the presentation is to further our understanding of the perceptual process. Here are some topics off the top of my head, but don't feel constrained by these ideas:

Why can't we tickle ourselves?

Why do some people experience motion sickness?

What are the challenges and short falls of cochlear implants?

Did the visual system evolve to detect camouflage in nature?

What is the cause of phantom limb sensations and what are the treatments?

How do you explain the odd perceptual experiences of a synesthete?

What is the role of smell in interpersonal relationships in humans (pheromones)?

What are some possible explanations for the occurrence of absolute pitch?

**Both Options:** I will attempt to group you based on your preferences and ask you as a group to give a Microsoft Powerpoint research presentation. Note: not all of you will get your first choice. After the formation of your groups, you will be required to submit an outline of your presentation detailing the content. The presentation will be limited to a class period (50 minutes) and will be the only coverage that your classmates receive on that particular topic. You will be tested on this material. Therefore, you will need to cover the material thoroughly and clearly. On the day of your presentation, you must also submit to me 10 multiple choice questions (4 possible answers (A-D)) over the material you will cover in your presentation. I will choose especially good questions for your final test. Your grade will include my assessment of content, effort and presentation style as well as an assessment by your fellow classmates and your fellow group members.

**ATTENDANCE:** Class attendance is your responsibility. I will keep track of who is attending and who is not as an assessment tool. The college policy is that you are not to have more than a week's worth (3) of unexcused absences in a given class. Therefore, excessive absences are grounds for being withdrawn from this class and I reserve this right.