Home Page & Syllabus

(as of Dec 28)

Schedule

(as of Apr 26)

Online S&P Resources

Psych Home Page

Contact Me

Sensation and Perception (S&P) for Psych Majors-- PSYC 3041/6014 (Spring 2012)

(Note: This is not the web page for PSYC 3040, as of Spring 2012.)

Syllabus and Course Outline

Instructor:	Bruce Walker
Office:	Room 230, Psychology Building (Coon Building)
Telephone:	(404) 894-8265
Email:	**bruce.walker@psych.gatech.edu**
Course web page:	**http://sonify.psych.gatech.edu/~walkerb/classes/perception/**
Office Hours:	After class and by appointment
Teaching Assistant:	Sadaf Kazi (sadaf.kazi _at_ gatech.edu)
Class Schedule:	MWF 10:05 am - 10:55 am, JS Coon (Psychology) Building, Room 250
PSYC 3041 Lab:	Section A: Thursday 3-6pm, JS Coon 248 Section B: Tuesday noon-3pm, JS Coon 248
Lab Instructors:	Myounghoon "Philart" Jeon (mh.jeon _at_ gatech.edu) Jonathan Schuett (jschuett6 _at_ gatech.edu)

Required Textbook:

Goldstein, E. B. (2010). *Sensation and Perception*, 8th Edition. Cengage Learning. (ISBN-10: 0495601497 ISBN-13: 9780495601494)

- Textbook is available in hardcover, as well as various electronic versions. It may be purchased or rented in either print or electronic format.
- Publisher's website for purchasing & renting hardcover and electronic format: **www.cengagebrain.com**
- **Publisher's free companion website for Goldstein 8e**
- The GT Bookstore at Barnes and Noble has the hardcover and electronic book, and you can buy or rent books and eBooks from **www.barnesandnoble.com**
- Also available new and used online at, for example, Amazon.com: **hardcover textbook only** | **book plus CD-ROM** | **Kindle ebook**
- **Note 1:** Textbook has **changed** for PSYC 3041/6014, starting Spring 2012.
- **Note 2:** Several additional readings will be required. They will be made available for copying. It is the student's responsibility to obtain and read all required readings before the class in which they are discussed.

Course Description

We will examine how humans (and in some cases, other animals) sense and perceive the world around us. First we will consider the philosophical questions that humans have long posed about perception, and study the methods and techniques scientists use to try to answer them. We will study the sensory pathways, fundamental perceptual processing, and higher-level meaning-making. We will cover the orienting senses, skin senses, chemical senses (smell and taste), audition, vision, and the perception of time. We will consider sensation and perception from several perspectives: physiological, psychophysical, ecological, motivational, and computational. This diversity of viewpoints also allows us to look at multi-sensory perceptual processes. The course will be largely in lecture format, with as much discussion as possible. Class participation will be important to your success in the course. There will be two midterms and a final exam. There is also a laboratory associated with the PSYC 3041 course.

Educational Philosophy for this Course

I believe that advanced undergraduate graduate level courses and all graduate level courses should focus on discussion and integration with other courses. However, in order to have a meaningful discussion in this topic area, there are a lot of facts to learn first: historical dates; the parts and functioning of the perceptual systems; neural pathways and brain regions; theories; processes; functions; etc. Students will be left to learn many of the more straightforward facts through the required reading, supplemental resources (e.g., companion web site), private study groups, or discussion outside of class. You may be tested on all material covered in lectures, as well as material from the textbook and additional required readings that is not covered in class. Where necessary, more complex material will be taught, and examples worked, in class. As much time as possible will be reserved for discussion, much of it led by students. However, there is a lot to learn, so in order to get the chance to discuss, we may move quickly through basic material. You are expected to have read the required material before class, and be prepared to contribute to an integrative and meaningful discussion.

Grading

Students are expected to do their own work at all times and to follow the university's codes of academic conduct and the honor code. Cases of suspected inappropriate collaboration or cheating will be immediately forwarded to the Dean of Student Affairs, and will be pursued to resolution. This is an unpleasant process for all involved, so please do not put yourself in this situation.

Students are expected to conduct themselves in a professional manner--this entails handing assignments in on time and showing up for class, labs, and exams at the appointed time. Late assignments will not be accepted, and make-up exams will not be given. If some form of prior commitment prevents a student from taking an exam at the given time, PRIOR arrangements (including documentation where appropriate) should be made with the instructor. Note that the final exam will be scheduled by the Registrar, and not the course instructor. Final exam scheduling conflicts will be resolved according to official university procedures.

Extra work, after the semester, is not allowed to "bring up" a grade. A student's grade shall be earned from their performance solely on the semester's work.

Grading is determined by a semester-long accumulation of points, weighed in percentage as summarized below. Determinations of the individual category breakdowns will be determined by looking for gaps or clumps in the final averages.

PSYC 3041 (Undergraduate Psychology majors):
Midterm Exam I - 50 points
Midterm Exam II - 50 points
Final Exam - 100 points
Lecture TOTAL: 200 points for PSYC 3041

LAB Course for 3041 *will contribute 25% to the overall grade for 3041. That is, the lab course will have a grade out of 100 points, but that will be multiplied by 25%. The grade for the lecture portion of the course will be converted to a score out of 75 points, and added to the lab score. That sum will be the final grade for students in 3041.*

PSYC 6014 (graduate students):
Midterm Exam I - 50 points
Midterm Exam II - 50 points
Final Exam - 100 points
Final Research Proposal (Grad Students in PSYC 6014, only) - 100 points
TOTAL: 300 points for PSYC 6014

Midterms and Final Exam

There will be two midterms and one final exam, intended to assess learning on mostly (but not exclusively) factual information. The midterms will be held during a class period (see the schedule), and the final exam will be in the regularly scheduled Final Exam time period, as determined by the Registrar. Exams may not be rescheduled.

The material covered in the exams may include any of the required reading (textbook and additional readings), in addition to anything presented or discussed in class. Note that just because it is not covered in class does not mean it will not be on a midterm or the final!

Exams may include a mixture of multiple choice and short-answer questions.

Lab Course for 3041

PSYC 3041 has a lab course associated with it. The lab will meet once each week, for a 3-hour session. During the lab, you will discuss extra readings, experience demos, conduct research, and visit labs to participate in real research projects in the field of sensation and perception. Participation will for a major portion of the lab grade. There may also be lab reports, summaries of research papers, and a final research proposal required.

The lab course will have a grade out of 100 points, but that will be multiplied by 25%. The grade for the lecture portion of the course will be converted to a score out of 75 points, and added to the lab score. That sum will be the final grade for students in 3041.

Final Paper for Students in PSYC 6014 (Grad Students) and PSYC 3041 (Lab Section): Research Proposal

For the graduate students (anyone registered for PSYC 6014), the final paper must be a ***research proposal*** that fits within the **themes** listed below. Also, students in the Lab course associated with PSYC 3041 will also be required to complete a research proposal as part of the lab. In all cases, the Research Proposal should clearly identify an area related to the science of sensation and perception (and within the theme), indicate a topic worthy of experimental investigation, provide sufficient but concise background information to frame the problem, propose an experiment that could be conducted to study the problem, pose hypotheses, and then discuss what you might conclude from the various potential outcomes. The page limit is 15 pages (in APA format, as described below), not including the cover page and references. Hopefully you will be able to find an area of your own research or subject area that connects with sensation and perception and relates to the themes, so this exercise can have added relevance to your studies.

An optional one- or two-paragraph outline may be handed in for feedback no later than three weeks before the due date. This outline will not be graded but it will, however, elicit useful feedback, which in turn is highly likely to help you with your final proposal.

Themes for research proposals: The research proposals need to be within the domain of sensation and perception, and also relate to one or more of the following themes:
(1) *perception on the go*--driving, cycling, in-vehicle displays, infotainment, motion sickness, mobile phone displays, etc.;
(2) *perception and special populations*--astronauts, athletes, persons with disabilities, children, seniors, etc.

Note on APA format: This is a psychology course, and papers in psychology are nearly always written according to the American Psychological Association (APA) Style guidelines. It is *assumed* that your paper will comply with the APA style, so you will not earn points for getting it right. However, while we will not be specifically checking for picky details, you can lose points if your paper deviates too far from the guidelines. If APA Style is new to you, consider leaving extra time for getting up to speed with it, and for formatting your paper, references, etc.

The APA has a printed book, and also a whole Web site to explain APA Style at **www.apastyle.org**. They also have a free **online tutorial**, in addition to the printed book. You can consult the web, borrow the book, or buy it at the APA site or other online retailers. Here is another **Web site on APA style from Purdue University**.

Note on sources and citing: The key product or "deliverable" in an essay or paper or term paper in this class is your own opinions and views and conclusions and thoughts. These should be arrived at after careful reading of other works, the views of other people, and a range of sources. For historical facts and methodological details, it is often quite straightforward to report what are considered "the facts". Appropriate paraphrasing, integration of multiple sources, and citations of sources are still required. However, on other parts of the paper, it can often be a challenge to get the right balance between restating other people's views and synthesizing them into your own opinions. This is a skill, and is one of the reasons we assign this paper in a Psychology class. However, please note that the highest standards for ethics and integrity will be upheld in this class, including issues of plagiarism and failure to cite other authors when appropriate. Suspected violations will be reported. See the supplemental reading on Plagiarism (from Prof. Zenzi Griffin's Research Methods class) for more thoughts on this. (**Download PDF**)

Also note that while they may be very useful starting points, Wikipedia and other similar anonymous encyclopedia-style sources (online or not) *may not be cited*. You must use, refer to, and appropriately cite primary sources. See the supplemental reading entitled, "Why you can't cite Wikipedia in my class" by Neil L. Waters, for more thoughts on this. (**Download PDF**)

Respect and Consideration

Please, above all, be respectful and considerate of others in the class. It should go without saying, but this includes showing up on time for classes, meetings, exams, etc. Please turn your cell phone, pager, PDA, or any other alarms and ringers **off** while you are in class. If you disturb the class, including incoming phone calls and messages, you may be asked to leave.

Additional Required Reading

Additional readings, typically research articles and book chapters, will be required. Those readings will be made available for download or for copying. Students will be responsible for obtaining and reading all materials before the class in which they are to be discussed.

Water, Neil L. (2007). Why you can't cite Wikipedia in my class. *Communications of the ACM*, Volume 50, Issue 9, pp. 15-17, (September 2007). DOI: http://doi.acm.org/10.1145/1284621.1284635. (**Download PDF**)

Lippstreu, Michael, & Griffin, Zenzi M. (2005). *Class Handout on Plagiarism*, for Georgia Tech Psychology 2010, Research Methods. Available as additional background material in PSYC 3040 by permission from Prof. Griffin. (**Download PDF**)

Dutta, A., Campbell, K. C., & Proctor, R. W. (1994). Psychophysics and Signal Detection Theory. In *Workbook for Proctor and Van Zandt Human Factors in Simple and Complex Systems*, Boston: Allyn and Bacon, pp. 19-24 plus Table E.10. (**Download PDF**)

Carlson, N. R. (2001). *Physiology of behavior* (7th ed.). Needham, MA: Allyn and Bacon.

Chapter 3: Structure of the nervous system. (**Download PDF, 3.6MB**)
Chapter 6: Vision (**Download PDF, 5.4MB**)
Chapter 7: Audition, the body senses, and the chemical senses. (**Download PDF, 8.2MB**)
Chapter 9: Sleep and biological rhythms. (section on biological clocks, pp. 296-303) (**Download PDF, 4.9MB**)
Chapter 16: Human communication. (section on speech, pp. 496-514) (**Download PDF, 4.6MB**)

Stevens, S. S. (1961). To honor Fechner and repeal his law. *Science, 133*, 80-86. (**Download PDF, 1.1MB**)

Bregman, A. S. (1993). Auditory scene analysis: Hearing in complex environments. In S. McAdams & E. Brigand (Eds.), Thinking in sound: *The cognitive psychology of human audition*. New York: Clarendon Press/Oxford University Press. (pp. 10-36). (**Download PDF, 3.2MB**)

Deutsch, D. (2002). The puzzle of absolute pitch. Current Directions in Psychological Science, 11(6), 200-204. (**Download PDF, 700kB**)

Finke, R. A. (1990). Mental imagery and the visual system. In I. Rock (Ed.) *The perceptual world*. New York: Freeman and Co. (pp. 179-190). (**Download PDF, 1.2MB**)

Poggio, T. (1990). Vision by man and machine. In I. Rock (Ed.) *The perceptual world*. New York: Freeman and Co. (pp. 81-96). (**Download PDF, 1.7MB**)

Hubel, D. H. and Wiesel, T. N. (1990). Brain mechanisms of vision. In I. Rock (Ed.) *The perceptual world*. New York: Freeman and Co. (pp. 3-24). (**Download PDF, 2.4MB**)

Rigden, Christine. (1990). 'The eye of the beholder' - Designing for colour-blind users. *British Telecommunications Engineering*, 17, 2-6. (**Download PDF, 240kB**)

Burns, Simon (2005). *Backlash Brews Over Blue LEDs.* Downloaded Sept 2006 from http://www.wired.com/news/technology/0,1282,67574,00.html . (**Download PDF**)

[This list is subject to change, including additions and deletions.]