

# *Sensation and Perception*

## Psychology 370: Fall Semester 2009

### Section 1, 10:00-10:50 AM (M,W,F) Rm 270 SWKT

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### **Course Description**

Welcome to Sensation and Perception. This course will change your life, as you will look at yourself and others differently. As you learn about your senses and how the brain processes them into perceptions and consciousness you will begin to understand the wonders and limits of your creation. You will come to better appreciate the expression, "We are spiritual beings having a physical experience". We will explore each sensory system, how energy is transduced into neuronal signals, and where and how these signals are processed in our nervous system. You will gain insights into disparate disciplines that exploit our sensory physiology including visual art, graphic design, sound processing, music, etc... By learning and critically thinking about your senses, and how they are processed, will not diminish them, but will elevate your awareness and appreciation of them, and perhaps even make you a more sensitive and sensuous person. Moreover, with an understanding of the limits of our physiology you will likely become a more compassionate person, especially to those with sensory disabilities. This course presents the most complete and up-to-date research in the field of sensory physiology.

### **Course Outline**

<b>Lecture</b>				<b>Pres</b>	<b>Quiz</b>	
#	Date	Chp	Topic	#	Rm	BB
<b>September</b>						
1	Mon. 31		Introduction			
2	Wed. 02	1	Introduction to Perception		1	
3	Fri. 04	2	Introduction to the Physiology of Vision		2	
	Mon. 07		<b>No Class: Labor Day</b>			
4	Wed. 09	2	Introduction to the Physiology of Vision (cont'd)			
5	Fri. 11	3	Introduction to Vision		3	
6	Mon. 14	3	Introduction to Vision (cont'd)	1	4	
7	Wed. 16	3	Introduction to Vision (cont'd)			5
8	Fri. 18	4	The Visual Cortex and Beyond		6	
9	Mon. 21	4	The Visual Cortex and Beyond (cont'd)	2	7	
10	Wed. 23	4	The Visual Cortex and Beyond (cont'd)			8
11	Fri. 25	5	Perceiving objects and scenes		9	
12	Mon. 28	5	Perceiving objects and scenes (cont'd)	3	10	
13	Wed. 30	5	Perceiving objects and scenes (cont'd)			11
<b>October</b>						
			<b>EXAM I (Coverage: Lectures 1-13)</b> <i>Exam in the Testing Center from Thurs-Fri; Late Day Sat</i>			
	Fri. 02					
14	Mon. 05	8	Perceiving Motion	4	12,13	
15	Wed. 07	8	Perceiving Motion (cont'd)			
16	Fri. 09	8	Perceiving Motion (cont'd)			14
17	Mon. 12	9	Perceiving Color	5	15,16	
18	Wed. 14	9	Perceiving Color (cont'd)			
19	Fri. 16	9	Perceiving Color (cont'd)			17
	Mon. 19		Laboratory--Group 1 (surnames A-L)			

	Wed. 21		Laboratory--Group 2 (surnames M-Z)			
	Fri. 23		Laboratory--Guest Speaker (All groups: in the classroom)			
20	Mon. 26		Clinical Aspects of Vision and hearing	6	18	
21	Wed. 28		Clinical Aspects of Vision and hearing (cont'd)			19
22	Fri. 30	10	Perceiving Depth and Size		20	
<b>November</b>						
23	Mon. 02	10	Perceiving Depth and Size (cont'd)	7	21	
24	Wed. 04	11	Sounds, the Auditory System, and Pitch Perception		22	
25	Fri. 06	11	Sounds, the Auditory System, and Pitch Perception (cont'd)			
26	Mon. 09	11	Sounds, the Auditory System, and Pitch Perception (cont'd)	8	23	24
Wed. 11	<b>EXAM II (Coverage: Lectures 14-26) In the Testing Center from Tues-Wed; Late Day Thurs</b>					
27	Fri. 13	12	Sound Localization and the Auditory Scene		25	
28	Mon. 16	12	Sound Localization and the Auditory Scene (cont'd)	9	26	
29	Wed. 18	13	Speech perception		27	
30	Fri. 20	13	Speech perception			
31	Mon. 23	14	The cutaneous senses	10	28,29	
32	Tues. 24	14	The cutaneous senses (Fri Instruction Day)			
	W,F. 25,27		<b>No Class: Thanksgiving</b>			
33	Mon. 30	14	The cutaneous senses (cont'd)	11	30	31
<b>December</b>						
34	Wed. 02		Proprioception			32
35	Fri. 04	15	The chemical senses		33	
36	Mon. 07	15	The chemical senses	12	34	
37	Wed. 09		Consciousness, sleep and dreaming			35
Wed 09	<b>EXAM III (Coverage: Lectures 27-37) In the Testing Center from Wed-Thurs</b>					
Mon.14	<b>FINAL EXAM (Comprehensive) in the Classroom 11AM-2 PM</b>					

### ***Textbook, Learning Resources, and Blackboard***

You will use an award-winning textbook and internet materials for this course and Blackboard for quizzes, assignment instructions, and communication. Bruce Goldstein's Eighth Edition of Sensation and Perception is required reading for this course. It is available in the Bookstore. You do not need to purchase the Virtual Lab manual with CD. Specific reading assignments from select chapters are indicated above in the course outline. The companion site for this textbook is: [http://www.wadsworth.com/cgi-wadsworth/course\\_products\\_wp.pl?fid=M20b&flag=student&product\\_isbn\\_issn=9780495601494&disciplinenum=24](http://www.wadsworth.com/cgi-wadsworth/course_products_wp.pl?fid=M20b&flag=student&product_isbn_issn=9780495601494&disciplinenum=24). On this page you will find a link under Chapter Resources a link entitled "Multiple Choice Quiz" associated with each chapter (note you need to select a chapter first). There are 10 questions in associated with each quiz. They are representative of quiz and exam questions in this course and serve as a study guide for each chapter. Blackboard is used in this course to post course materials and quizzes, to organize scoring and grading, and as a discussion forum (go to Discussion Board/Forum). We hope this will help to minimize email correspondence with the TA and Instructor. In other words, avoid emailing the TA or Instructor with questions or comments that could be addressed by other students in the course. Post your question or comment on the Discussion Forum. This is also a good vehicle for discussions about content in the course that you don't understand. The TA and the Instructor will occasionally monitor the forum and post comments.

### ***Course Format***

- 1) **Quizzes (125 pts):** There will be 35 quizzes in the course. I know, that sounds crazy. However, it is my experience that this helps, as it encourages reading, and the quiz questions are similar to the exam questions. There are three types of quizzes as indicated in the Course Outline above: 1) A quiz

will accompany each reading assignment from the textbook as per the assignments in the Course Outline and will be given during the first 5 min of each respective lecture; 2) A quiz will accompany some lecture topics that involve 3 lecture days or topics that are not in your textbook and will be given on Blackboard at 12 noon after the last class period associated with each numbered lecture topic and will run until the beginning of the next class period; and 3) An in-class quiz will follow each Mon student class presentation. The Blackboard link to the quizzes can be found in your Announcements section, or in the Course Documents section. Each will consist of 5 questions worth 1 point each. Your 25 best quiz scores will be selected to make a total of 125 points.

- 2) Mid-term Exams (300 pts): There will be 3 exams during the semester. All exam questions will be taken from content in the textbook, handouts, and what is said in class. The midterm exams will be held in the Testing Center. Each exam will be worth 100 points and may consist of short-answer, matching, fill in the blank, true/false or multiple choice, etc and will be similar in difficulty to the quiz questions. Total mid-term exam points will be 300.
- 3) Final Exam (50 pts): The final exam will consist of comprehensive questions regarding material covered in Midterm Exams 1-3. As with the mid-term exams, the questions may consist of short-answer, matching, fill in the blank, true/false or multiple choice, etc. Total final exam points is 50.
- 4) Laboratory Report (25 pts): There will be one lab during the semester. We will divide the class into two groups of students according to surname. Although not encouraged, if you cannot attend your assigned lab, due to a time conflict, you may attend with the other group. These will be held during the indicated class hours listed in the course outline above. Each student will be responsible for a one-two page, double-spaced, typewritten report on the lab and on the material presented by the guest speaker. Typical reports describe what was observed during the lab experiments, what was learned, etc...If it is determined that your report does not adequately complete the assignment you will be asked to revise it in order for you to receive full credit. The report is due anytime on Wed, Nov 05. The lab report will be worth 25 points. It will not be competitively graded. However, if you fail to complete the assignment to the satisfaction of the Instructor you will be asked to re-write it. The preferred method of submission is email. Put your name in the document name as well as the assignment (e.g., John Doe Sensory Appreciation Lab).
- 5) Article Critique/Class Presentation (100 pts): On Pages xxv and xxvi of the Preface, at the end of each chapter in the "If you want to know more" section, and throughout the text of each chapter there are papers cited associated with each topic. These are typically original research articles. The reference for each of these articles is listed in the back of the textbook. During the first week of the semester you will be assigned to a group of 4-5 students and a random number for the day you will present your article to the class. You may choose any original research article from the chapter before or during your assigned day to present. The class report should be in the form of a PowerPoint presentation. Class Reports will be on Mondays and will typically last 25 mins. The first slide should show the title page of the article. Each member of your group will participate in the presentation. One person in your group will present the background of the study, one will present the methods, one the results and one the discussion. The fifth person in your group will formulate the quiz with the help of the rest of the group, present it and score it. **YOU NEED TO EMAIL ME THE POWERPOINT PRESENTATION AND QUIZ ONE HOUR BEFORE THE TIME OF YOUR PRESENTATION.** The presentation will be worth 50 points (Background (10 Pts), Methods (10 Pts), Results (10 Pts), Discussion (10 Pts) and Quiz (10 Pts). For the paper, you will review the article according to the guidelines at the end of the syllabus and submit a 2 page double-spaced critique of the article. The paper will be due one week after your class presentation.

Please email your critique along with a pdf of the article. The paper critique will be graded as follows: Title (5 Pts); Abstract (5 Pts); Introduction (5 Pts); Methods (5 Pts); Results (10); Discussion (15 Pts); References (5 Pts). The preferred method of submission is email. Put your name in the document name as well as the assignment (e.g., John Doe Article Critique).

- 6) Research (10 Pts): There are a number of ongoing research projects in the Instructor's lab that require participants. These projects include an ongoing project related to his research on addiction and research projects involving students in his research course. Thus, it is expected that each student will volunteer for 2 hrs of research, 1 hr in association with the Instructor's ongoing research and 1 hr in association with student research projects. Each of these projects will be worth 5 Pts. As research participation cannot be obligated, other assignments will be available in place of research. They will involve a review of two Psych seminars.
- 7) Extra Credit (5 pts): There will be up to 5 Pts extra credit possible in the course. It will be available to all equally. It will consist of 2 options worth 5 Pts each. You will get credit for completing 1. The options include: 1) Assigned at-home experiment at the end of the course; or 2) Completing the Course evaluation (you need to "release your name" to get credit). However, I strongly encourage you to complete the course evaluation whether or not you want EC for it.
- 8) Total Possible points = 610 pts

### ***Evaluating Student's Performance and Establishing Grades***

Scoring: Exams: 3x100=300 points; Final Exam: 50 points; Quizzes: 25x5=125 points; Laboratory report: 25 points; Article Report/Presentation: 100 points; Research: 10 points. Total Points = 610.  
Grades (% or above): A: 93%; A-: 90%; B+: 87%; B: 83%; B-: 80%; C+: 77%; C: 73%; C-: 70%; D+: 67%; D: 60%; D-: 55%; E: 55%

### ***Mid-course evaluation***

Sometime after the first mid-term exam you will be asked to participate in a mid-course evaluation sponsored by the Center for Teaching and Learning. Student feedback from this evaluation will enable the Instructor to improve learning outcomes.

### ***Course Learning Outcomes and Participation***

Each program at BYU has developed a set of expected student learning outcomes. These will help you understand the objectives of the curriculum in the program, including this class. To learn the expected student outcomes for the programs in this department and college go to <<http://learningoutcomes.byu.edu>> and click on the College of Family, Home and Social Sciences and then this department. We welcome feedback on the expected student learning outcomes. Any comments or suggestions you have can be sent to <[FHSS@byu.edu](mailto:FHSS@byu.edu)>. In this course, it is expected that the student will:

- Gain an understanding of the physiological and psychological basis of sensation and perception
- Be able to demonstrate that you can meet the course learning objectives given at the start of each lecture topic
- Be able to critically reflect on the content of psychology as well as on disciplinary values in light of their knowledge of and commitment to the restored gospel of Jesus Christ and to sustain personal values that are true to the gospel while maintaining their serious study of psychology and neuroscience.

- Readiness to learn means that you will come to class with questions and insights and prepared to discuss the relevance and application of course materials, reading assignments, etc....I have found that students do well if they:
  - ✓ Read the assigned material from the textbook before class. Read the chapter like a novel the first time. Come to class.
  - ✓ Take as many quizzes associated with the reading material in class and on Blackboard.
  - ✓ Be attentive during lecture. Take notes on your handouts during lectures. Pay particular attention to that which is emphasized regarding the reading material in lecture. However, you are responsible for any lecture material on the handout that is not in the reading.
  - ✓ For the midterm exams, re-read the material from the textbook chapters covered, as well as your notes from lecture.
  - ✓ Complete the Sensory Appreciation lab report and the article critique/class presentation.

### ***FHSS Writing Lab***

To get help with your paper's organization, structure, focus, tone, and documentation style, you can go to the FHSS Writing Lab in **1051 JFSB** to meet one-on-one with a peer advisor. All advisors are students from our college and are trained in APA, Turabian, and some AMA and MLA. To prepare for a tutorial, take a copy of the assignment, a hard copy of your draft, whatever stage it may be in, and a list of questions and concerns you have about your paper. Drop in or make an appointment: **Monday through Friday 9:00 am – 3:00 pm, closed Tuesday and Friday from 11-12 (for devotional and staff meeting)**. For more information, go to <http://fhsswriting.byu.edu> or email: [fhss-writinglab@byu.edu](mailto:fhss-writinglab@byu.edu)

### ***Honor Code***

In keeping with the principles of the BYU Honor Code, students are expected to be honest in all of their academic work. Academic honesty means, most fundamentally, that any work you present as your own must in fact be your own work and not that of another. Violations of this principle may result in a failing grade in the course and additional disciplinary action by the university. Students are also expected to adhere to the Dress and Grooming Standards. Adherence demonstrates respect for yourself and others and ensures an effective learning and working environment. It is the university's expectation, and my own expectation in class, that each student will abide by all Honor Code standards. Please call the Honor Code Office at 422-2847 if you have questions about those standards.

### ***Plagiarism***

It is an act of plagiarism to "borrow" ideas or quotes from former students' old papers and from the papers of students presently taking the course with you. Plagiarism also includes quoting or paraphrasing passages from any of your references without giving proper credit to the real authors (i.e., an APA-style citation), because doing so implies that this information came from you. Presenting the ideas of others as one's own is called plagiarism. Plagiarism, as defined by the BYU Honor Code, is a form of intellectual theft. It is an act of fraud; it is dishonest, deceitful, unethical, and can lead to serious and lasting negative consequences for your academic and professional career. For this reason, please follow the course guidelines for when and when not to read other 370 students' papers (including those from other sections) or have them read yours. In addition, please use only those sources that meet the course criteria for acceptable reference materials.

### ***Academic Honesty***

While all students sign the honor code, there are still specific skills most students need to master over time in order to correctly cite sources, especially in this new age of the internet; as well as deal with the stress and strain of college life without resorting to cheating. Please know that as your professor I will notice instances of cheating on exams or plagiarizing on papers. See <http://www.byu.edu/honorcode> for specific examples of intentional, inadvertent plagiarism, and fabrication, falsification.

### ***Students With Disabilities***

Brigham Young University is committed to providing a working and learning atmosphere that reasonably accommodates qualified persons with disabilities. If you have any disability that may impair your ability to complete this course successfully, please contact the University Accessibility Center located in 2170 WSC (801-422-2767). Reasonable academic accommodations are reviewed for all students who have qualified documented disabilities. Services are coordinated with the student and instructor by the SSD office. If you need assistance or if you feel you have been unlawfully discriminated against on the basis of disability, you may seek resolution through established grievance policy and procedures. You should contact the Equal Opportunity Office at 301-422-5895, D-282 ASB.

### ***Preventing Sexual Harassment***

Title IX of the Education Amendments of 1972 prohibits sex discrimination against any participant in an educational program or activity that receives federal funds. The act is intended to eliminate sex discrimination in education and pertains to admissions, academic and athletic programs, and university-sponsored activities. Title IX also prohibits sexual harassment of students by university employees, other students, and visitors to campus. If you encounter sexual harassment or gender-based discrimination, please talk to your professor; contact the Equal Employment Office at 801-422-5895 or 1-888-238-1062 (24-hours), or <http://www.ethicspoint.com>; or contact the Honor Code Office at 801-422-2847.

### ***Cell phones and electronic devices in class***

Cell phones should be turned off in class and computers are welcome as long as you are taking notes and not distracting others (surfing the web, answering email, playing games etc.)

### ***Flu Policy***

As are all large communities, BYU is preparing for the potential of the H1N1 influenza virus to spread rapidly throughout the campus during the coming winter. Details of BYU's preparation, and advice on what you can do to prepare, can be found at [flu.byu.edu](http://flu.byu.edu). Please read it! In order to contain any possible infection, the administration has advised course instructors to ask any student who is feeling sick with flu-like symptoms (fever with either sore throat or cough) to remain home, away from class and away from all large gatherings. Sick students should remain at home until at least 24 hours after the fever has gone away. Students should also call their doctor or the student health center for advice as soon as possible. The administration has asked course instructors to provide adequate make-up opportunities for all work missed during a flu-like illness. Accordingly, I will allow all time as needed to miss class during an illness and to make up work at a reasonable time afterward, provided the student provides a doctor's note to document the illness. ALL students who feel sick with fever and sore throat or cough should call the doctor and visit if so advised. If advised to visit the doctor, please obtain a note whether or not you are diagnosed with the flu! When you are ill please call or email your TA or the instructor as soon as possible, and *continue to communicate* with us until you are well.

\*\*\*DISCLAIMER: This syllabus is subject to change by Instructor\*\*\*

## PSYCH 370

### Journal Critique Outline

#### **Title**

Is the title appropriate for the article? Does it reflect what the article states as found in the study? Is it informative rather than “cute”?

#### **Abstract**

The abstract should be concise and describe all the pertinent findings of the study. Make sure what is said in the abstract is actually what was found in the study. Have the authors embellished their findings or overstated their results in anyway? The abstract is important because this may be all that most readers look at.

#### **Introduction**

The introduction should provide an adequate review of the topic area and the rationale for the study. There should be some statement as to the hypotheses being studied and what the expected findings might be. There should be some statement or inference as to why this is an important study to do. There should be ample and current citations of appropriate research literature to support the research hypotheses.

#### **Methods**

In most articles the Methods section and the manner in which the results were analyzed and/or interpreted are typically the areas where the greatest criticisms can be registered. In the Methods section one should carefully examine the types of subjects utilized, what kind of variables were manipulated and whether there are extraneous factors that could have affected the subjects performance other than the independent and dependent variables under study. How rigorous were experimental controls utilized? How homogeneous or heterogeneous were the various subject groups under study? Are there age, size, sex, experience, or other variables that might explain the findings? What type of experimental design was utilized?

#### **Results**

Check and make sure that the experimental design utilized is, in fact, appropriate for the statistics used. If the appropriate data is present, check some of the calculations. How descriptive are the statistics? In most journals interpretation of results is reserved for the discussion section, so be sure you check the discussion section to ensure that the results have been interpreted properly. How are the results written up? Can you understand them? Finally, provide an example of a result in the paper to give some context regarding the study.

#### **Discussion**

In this section there should be a complete integration between all the above sections and the results, and their significance, should be discussed fully. What is the real significance of this article? Did the study really find/discover what it set out to do, or is the author presenting an apologetic smokescreen? Did the authors provide sufficient evidence to support their hypotheses? What about the real implications of the study, are they all addressed? Did the author critique the study and point out potential weaknesses or were these glossed over?

#### **References**

Go to the library or go on-line and check a couple of the references. Did the author cite the article properly and accurately reflect the findings? How current are the references? How much does the author cite his/her own research?

Note: Look on BB for an example of a good critique.