COURSE OUTLINE

PSYCHOLOGY 367(001): Sensory Systems
Term 1, 2009W

Instructor: **Dr. Debbie Giaschi** *office:* Kenny 2531 *phone:* 875-2345x7807
e-mail: giaschi@interchange.ubc.ca

Teaching Assistants:

	Matt Dixon	**Marita Partanen**	**John Secen**
office:	Kenny TBA	Kenny 3606	Kenny 3606

All questions about exam grading and results should be directed to the TAs.

Textbook: *Sensation & Perception, 2nd edition* (2009) by J. Wolfe, K. Kluender, D. Levi et al.

(note: there is 1 new chapter and several new sections and figures that are not in the 1st edition; a cheaper e-book version of the 2nd edition is available – details at www.sinauer.com/ebooks/wolfe2e)

Website: www.giaschilab.ca/psyc367main.html (You will find the course syllabus, instructional objectives, lecture outlines, lecture slides and grades at this site)

Lectures: Tuesdays & Thursdays 11:00 am - 12:20 pm, CHEM 250

Office Hours: Dr. Giaschi – Tuesday, 12:45-1:45 pm
John – Wednesday, 10:00-11:00 am
Matt – Wednesday, 2:30-3:30 pm
Marita – Thursday, 9:30-10:30 am

*We are also easily reached by e-mail at **psyc367ubc@gmail.com**. We will check this account daily so please send all questions about course content, assignments and exams here.*

Readings and Lectures: Regular attendance at lectures is expected. You are responsible for reading the material in the textbook BEFORE the lecture in the order in which it appears on the schedule. Some of the material covered in class is not in the textbook, and some of the material in the textbook will not be covered in class. When it comes to the exams, you are responsible for ALL material covered in class and ALL material in the textbook including figures, definitions and summaries.

Instructional Objectives: Statements indicating what you should get out of each lecture and the readings will be included in the outline for each lecture (available on our course website). These objectives are to guide your studying and to make it unnecessary for you to ask us what you need to know for the exams. Many students choose to treat each objective as an exam question and attempt to answer it. We recommend this method of studying, but we do not have a list of correct answers. We can give you feedback on objectives that you are unsure about if you provide your written answer by e-mail at least 3 days before an exam.

Grades

Midterm Exam	40%
Final Exam	40%
Research Projects	20%
total	100%

In order to reduce grade inflation and maintain equity across multiple course sections, all psychology courses are required to comply with departmental norms regarding grade distributions. According to departmental norms, the mean grade in a 300-level class is 70 for a good class, 68 for an average class, and 66 for a weak class, with a standard deviation of 13. **Scaling** is likely to be used in order to comply with these norms; grades may be scaled up or down as necessary by the professor or department.

PSYCHOLOGY 367(001): Sensory Systems

Exams: Each of the exams will consist of multiple choice and short answer questions. The exams are not cumulative. Each exam will cover only material that you have not been tested on previously. Exams will not be returned to students, although they may be viewed during the TAs' office hours. Grades will be posted on the course website as soon as they are available. Correct answers will be reviewed in class.

***Missed Exams*:** Students will **not** ordinarily be excused for work-, travel-, childcare-, family emergency- or sports-related activities. However, students should not write exams when they are seriously unwell. If a medical emergency arises, you must contact Dr. Giaschi **BEFORE** the exam (**604-875-2345x7807**), and obtain a Statement of Illness form from a physician indicating that you were unable to attend school on the day of the exam. A make-up exam will be scheduled when you are well again. If you show up after an exam and inform us that you were sick, you will not receive credit. If you write an exam and then blame poor performance on illness, your grade will not be changed. Supplemental exams to improve your grade are not offered in the Department of Psychology.

Research Projects: Please consult the attached "Guidelines" (pages 4 & 5) for specific details on the group experiments and the individual reports, including penalties for late assignments.

Subject pool participation: You may earn up to *3 percentage points* by participating in laboratory experiments between September 8 and December 4. The bonus points are assigned as 1/2 point for each 1/2 hour of participation. Details are available at: http://hsp.psych.ubc.ca. You may download a document with additional instructions from our course website. Be sure to check your recorded bonus marks for this course at the end of the term at https://websec1.psych.ubc.ca/hsp/lookup/index.psy.

Accommodations: Please let Dr. Giaschi know as soon as possible if you will be seeking accommodation through the Disability Resource Centre or if you have religious obligations that will conflict with this course in any way. Students who plan to be absent for varsity athletics, family obligations or similar commitments cannot assume they will be accommodated and should discuss their commitments with Dr. Giaschi before the drop date.

Psychology Department's Position on Academic Misconduct: The UBC Calendar defines cheating as: "*dishonest or attempted dishonest conduct at tests or examinations, in which use is made of books, notes, diagrams or other aids excluded by the examiner. It includes communicating with others, copying from the work of others and purposely exposing information to other students who are taking the test or exam.*" Plagiarism is: "*the presentation or submission of the work of another person, without citation or credits, as the student's own work*".

Cheating, plagiarism, and other forms of academic misconduct are very serious concerns of the University, and the Department of Psychology has taken steps to alleviate them. In the first place, the Department has implemented software that can reliably detect cheating on multiple-choice exams by analyzing the patterns of students' responses. In addition, the Department subscribes to *TurnItIn*--a service designed to detect and deter plagiarism. All materials (term papers, lab reports, etc.) that students submit for grading will be scanned and compared to over 4.5 billion pages of content located on the Internet or in TurnItIn's own proprietary databases. The results of these comparisons are compiled into customized "Originality Reports" containing several, sensitive measures of plagiarism; instructors receive copies of these reports for every student in their class. In all cases of suspected academic misconduct, the parties involved will be pursued to the fullest extent dictated by the guidelines of the University. Strong evidence of cheating or plagiarism may result in a zero credit for the work in question. According to the University Act (section 61), the President of UBC has the right to impose harsher penalties including (but not limited to) a failing grade for the course, suspension from the University, cancellation of scholarships, or a notation added to a student's transcript. All graded work in this course, unless otherwise specified, is to be original work done independently by individuals. Do **not** use Google/Yahoo/MSN Search/etc. to find articles for assignments in this course. **Do** use any of the indexes and databases listed under Indexes and Databases, Subject Resources, OneSearch or Metasearch on the Library's website at http://www.library.ubc.ca. (Not sure which index to use? Click HELP on the library homepage at www.library.ubc.ca or try Subject Resources.) For details on pertinent University policies and procedures, please the Academic Regulations section of the UBC Calendar (http://students.ubc.ca/calendar).

PSYCHOLOGY 367(001): Sensory Systems

Lecture Schedule and Assigned Readings 2009W

Date		Topic	Reading
Sept	8	Imagine UBC Day (no class)	
	10	Introduction	Chpt 1 (p. 3-10)
	15	Psychophysics-classical methods	Chpt 1 (p. 10-14; web tutorial www.yorku.ca/psycho/en/introduction.asp)
	17	Psychophysics-modern improvements	Chpt 1 (p. 14-18; web docs Cornsweet[required]; Stanislaw&Todorov[extra])
	22	Biology of perception; Physics of light ***internet experiment due; sign up for research topics***	Chpt 1(p. 18-27); Chpt 2 (p. 29-30)
	24	Visual system (eye & optics)	Chpt 2 (p. 30-36)
	29	Visual system (retina) ***individual proposal due***	Chpt 2 (p. 36-49)
Oct	1	Visual system (visual acuity)	Chpt 3 (p. 51-58)
	6	Visual system (pathways)	Chpt 3 (p. 58-66; web essay 3.3)
	8	***Plan group experiments***	
	13	Visual system (cortex)	Chpt 3 (p. 66-77)
	15	***Conduct group experiments***	
	20	Physics of Sound; Auditory system (ear)	Chpt 9 (p. 219-228)
	22	Auditory system (inner ear)	Chpt 9 (p. 229-237)
	27	**Midterm exam**	**(Chpts 1-3, 9**[219-237]**)**
	29	***Group analysis & slide making***	
Nov	3	Auditory system (pathways; cortex; loudness)	Chpt 9 (p. 237-242)
	5	Auditory system (pitch; hearing loss) ***group slides due***	Chpt 9 (p. 242-247)
	10	Auditory system (sound localization)	Chpt 10 (p. 249-260)
	12	Somatosensory system (touch)	Chpt 12 (p. 299-309; web essay 12.2)
	17	Somatosensory system (temperature & pain) ***individual research reports due***	Chpt 12 (p. 309-316; web doc Basbaum & Julius[required])
	19	Olfactory system (physiology)	Chpt 13 (p. 331-343)
	24	Olfactory system (psychophysics)	Chpt 13 (p. 343-358)
	26	Gustatory system (physiology)	Chpt 14 (p. 361-372)
Dec	1	Gustatory system (taste psychophysics)	Chpt 14 (p. 372-383;web essay 14.1,14.2)
	3	Vestibular system	Chpt 15 (p. 385-400)
	TBA	***** Final Exam (2 hours)*****	**(Chpts 9**[237-247], **10**[249-260], **12**[299-316], **13-14, 15**[385-400])

web docs are available for download through the course website (www.giaschilab.ca/psyc367main.html)
web essays are available on the textbook website (www.sinauer.com/wolfe2e)
Chpts 4-8, 11 and pages 261-273, 317-329, 401-415 will be covered in Psyc 368

PSYCHOLOGY 367(001): Sensory Systems

Guidelines for Research Projects

After we have learned about psychophysical methods for measuring perception, you will demonstrate your knowledge in a multi-part research project.

1. ***conduct a psychophysics experiment on the internet:****

   This will be done outside of class time: results due **Tuesday, September 22** at the beginning of class. Each student will conduct a line length discrimination experiment on themselves using each of the 3 classical psychophysical methods. Go to *www.yorku.ca/psycho/en/introduction.asp*. Start with the method of constant stimuli (150 trials), followed by the method of limits (10 trials/series) and end with the method of adjustment (25 trials). For each method: read the Overview and the Operating Instructions, choose Experiment & Data Analysis (wait for the table of experimental variables to appear) and set the correct number of trials, choose 'Begin Experiment'. If you experience problems, click on 'HELP' at the bottom of the left menu panel. At the end of the experiment choose 'Yes' for an explanation of your data (if you choose 'No' the data will be lost), choose 'View Experiment Summary', write down your JND, save the data, print the text file of saved data. Hand in the 3 printed sets of data with the JND recorded on each set. **Be sure to include your name and student #.** *Experiments will be marked on completeness (be sure to do all 3 experiments with the correct number of trials and the JND recorded).*

2. ***choose a research group:***

   In class on **Tuesday, September 22** students will assign themselves to groups (8 students/ group) according to the general topics listed below. Group sign-up sheets will be available during class. If you already have a group of 8 students, please send a list of names, student numbers, e-mail addresses and your top 3 choices for topics to Dr. Giaschi before Sept. 21st.

   Topics: visual acuity (detection), visual contrast detection, visual spatial frequency discrimination, visual orientation discrimination, auditory pitch detection, auditory pitch discrimination, auditory loudness detection, auditory loudness discrimination, somatosensory detection, somatosensory discrimination, smell detection, smell discrimination, taste detection, taste discrimination

3. ***propose an experiment (write it down):*****

   This is a written proposal due **Tuesday, September 29** at the beginning of class.
   Each student will choose a specific aspect of perception to study within their assigned group topic (e.g. sour taste detection). Choose a psychophysical method (constant stimuli, adjustment, limits, staircase or signal detection) and a yes-no or forced-choice paradigm (warning: many people confuse these 2 paradigms) to use. Describe the research question you will investigate, the stimuli you will use, the procedure for stimulus presentation, and the calculations/graphs required to determine threshold or sensitivity based on the psychophysical method you have chosen. This is just a proposal, so you do not need to collect or analyze any data. There is no specific format to follow. Avoid exact duplication of experiments demonstrated in class. **Be sure to include your name, student # and group #.** *Marks will be based on clarity, correctness and completeness. Marks will be deducted for not writing on the topic you signed up for.*

4. ***plan a group experiment:*****

   This will be done during class on **Thursday, October 8;** *group proposals due at end of class.*
   Each group will design a single experiment to be carried out in class on October 15. You may choose one of the individual proposals from your group members or you may design a new experiment on your topic. All aspects of the experiment, including the stimuli to be used and each group member's role in the project, must be established during class and outlined in a proposal to Dr. Giaschi. Describe the research question you are investigating, the stimuli you will use, the procedure for stimulus presentation, and the calculations/graphs required to determine threshold or sensitivity based on the psychophysical method you have chosen. There is no specific format to follow. **The proposal should include a full description of what you plan to do (in enough detail for the reader to do the experiment) and a list of each student's role in the project.** *You will be contacted by e-mail before October 15 if we anticipate any problems with your design.*

5. conduct a group experiment:*

This will be done during class on **Thursday, October 15.**
Please bring all materials required for your experiment to class. You will have the entire class time to collect your data (using your group members as subjects). If you finish early, you may analyze your data as well. Data analysis involves determining psychophysical detection or discrimination thresholds (sensitivity if you used signal detection) for each subject, then averaging the thresholds for your group. No further statistical analyses should be done. *A list of each group member's role in the experiment must be signed and handed in at the end of the class.*

6. *tell the class about your experiment:**

In class on **Thursday, October 29**, each group will have time to analyze their data and to prepare 2 slides to tell the class about their project. The first slide should explain what you did and the second slide should explain what you found. Dr. Giaschi will incorporate your slides into November lectures. Slides are due by e-mail on **Thursday, November 5**. *A group grade will be assigned based on creativity, correctness, completeness and clarity.*

7. *prepare a research report:***

This is a written report, due **Tuesday, November 17** at the beginning of class.
Each student must hand in their own, unique report based on the group data. Each individual report should include the following sections: *Introduction* (your research question [detection or discrimination?], the sensory modality and specific aspect of perception studied and a predicted result based on the textbook or an independent reference article); *Method and Procedure* (a detailed description of the stimuli and the method of stimulus presentation); *Discussion* (refer back to the research question, describe any problems you encountered, suggest design improvements). *The individual report should be no longer than 5 double-spaced pages.* **Be sure to include your name, student # and group # on the title page.** In addition, each group should hand in one *Results* section (a table of raw data with trial order preserved for each subject [be sure to indicate stimulus value and response on each trial], a graph showing the psychometric function for each subject if you used the method of constant stimuli, a description of how you determined thresholds from the raw data, the thresholds for individual subjects and the average threshold for all subjects). *Marks will be given for clarity, neatness, correctness and completeness.*

Calculation of Grades

individual proposal	**5%***
group proposal	**2.5%**
individual research report	**10%**
group class slides	**2.5%**
total	**20% of final grade**

* *The individual proposal grade will be reduced by 10% for students with incomplete internet experiments and by 20 % for students who fail to hand in their internet results.*

** *A penalty of 10% per day will be applied to late assignments. Assignments received more than 1 week after the due date will not be marked. Students may be asked to provide an electronic version of their assignment to be submitted to TurnItIn to check for plagiarism.*

*** *Each student is expected to attend the group planning, experiment and analysis/slide making classes. Students who do not contribute to or miss a particular component will lose 2.5% of their final grade unless they have a documented medical excuse. Students will be asked to rate the contributions of their group members after the individual reports have been handed in. Grades may be adjusted for students whose group indicates that their contribution was minimal.*

Students should retain a copy of all submitted assignments because we will need to keep the marked assignments.