

COURSE OUTLINE

PSYCHOLOGY 367(001& 002): Sensory Systems Term 1, 2007W

Instructor:

Dr. Debbie Giaschi

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website: www.giaschilab.ca/psyc367main (You will find updated course outlines, instructional objectives, lecture outlines and lecture slides at this site)

Teaching Assistants:

Marita Partanen

Kenny 3606

John Secen

Kenny 3606

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Textbook: *Foundations of Perception* (2006) by George Mather

Lectures: Tuesdays & Thursdays

section 1: 11:00 am - 12:20 pm, Buchanan A102

section 2: 2:00 pm - 3:20 pm, Buchanan A100

note: exams and research projects must be done in the section in which you are registered

Office Hours: Marita – TBA; John - TBA

Dr. Giaschi is easily reached by e-mail, and will often be available 1 - 1:30 pm Tues & Thurs (but please make an appointment). Additional office hours will be announced prior to the midterm and final exams. *All questions about exam grading and results should be directed to the TAs.*

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 and tutorials.

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 2 days before an exam.

Grades

Midterm Exam 1	25%
Midterm Exam 2	25%
Final Exam	30%
<u>Research Projects</u>	<u>20%</u>
total	100%

Faculties and departments reserve the right to scale grades in order to maintain equity among sections and conformity to university, faculty or department norms. Students should therefore note that an unofficial grade given by an instructor might be changed by the faculty or department. Grades are not official until they appear on a student's academic record.

PSYCHOLOGY 367(001& 002): 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.

Missed Exams: Students will not ordinarily be excused for work-, travel-, childcare- or sports-related activities. However, students should not write exams when they are unwell. If a medical emergency arises, you must contact us **BEFORE** the exam, and obtain a Statement of Illness form from a physician. You may leave a message with the Psychology Department (604-822-2755) or call Dr. Giaschi (604-875-2345x7807). 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" for specific details on the group experiments and presentations and the individual reports, including penalties for late assignments.

Subject pool participation You may earn up to 2 percentage points by participating in laboratory experiments. 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.

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. If you have any questions as to whether or not what you are doing is even a borderline case of academic misconduct, please consult your instructor. For details on pertinent University policies and procedures, please see Chapter 5 in the UBC Calendar (<http://students.ubc.ca/calendar>) and read the University's Policy 69 (available at <http://www.universitycounsel.ubc.ca/policies/policy69.html>).

PSYCHOLOGY 367(001& 002): Sensory Systems

Lecture Schedule and Assigned Readings

Date	Topic	Reading	
Sept	4	Introduction	
	6	Methods	Chpt 1 (p. 3-12, 31-37)
	11	Principles	Chpt 1 (p. 12-23)
	13	Psychophysics-classical	Chpt 1 (p. 24-27, web document 1)
	18	Psychophysics-signal detection <i>sign up for research topics</i>	Chpt 1 (p. 28-30, web document 2)
	20	Olfactory system (smell)	Chpt 2 (p. 39-44, 51-53)
	25	<i>plan group experiments</i> <i>(bring individual proposals to class)</i>	
	27	Gustatory system (taste & flavour)	Chpt 2 (p. 44-50)
Oct	2	<i>conduct group experiments</i>	
	4	***Midterm Exam 1***	(Chpts 1-2)
	9	<i>plan group presentations</i>	
	11	Somatosensory system (touch) <i>group presentations start</i>	Chpt 3 (p. 55-63)
	16	Somatosensory system (pain & temperature)	Chpt 3 (p. 75-77, Basbaum & Julius)
	18	Vestibular system	Chpt 3 (p. 64-74, 77-79)
	23	Physics of Sound	Chpt 4 (p. 81-89)
	25	Auditory System (peripheral)	Chpt 4 (p. 90-100)
	30	Auditory System (central) <i>individual research reports due</i>	Chpt 4 (p. 100-115)
	Nov	1	Hearing
6		***Midterm Exam 2***	(Chpts 3-4)
8		Hearing Dysfunction	Chpt 5 (p. 136-139)
13		Physics of light	Chpt 6 (p. 145-155, 174-177)
15		Visual system (eye & optics)	Chpt 6 (p. 155-161, 168-174)
20		Visual system (visual acuity & eye movements)	Chpt 6 (p. 161-167)
22		Visual system (retina)	Chpt 7 (p. 179-192)
27		Visual system (pathways)	Chpt 7 (p. 192-196, 208-213)
29		Visual system (cortex)	Chpt 7 (p. 196-206)
TBA		*** Final Exam (2 hours)***	(Chpts 5-7)

Note: Chpts 8-13 and pages 131-135, 141-143 will be covered in Psyc 368

PSYCHOLOGY 367(001&002): 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. choose a research group:

In class on **Tuesday, September 18** 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. 18th.

Topics: smell detection, smell discrimination, taste detection, taste discrimination, somatosensory detection, somatosensory discrimination, auditory pitch detection, auditory pitch discrimination, auditory loudness detection, auditory loudness discrimination, visual acuity (detection), visual brightness detection, visual brightness discrimination, visual colour discrimination, visual orientation discrimination

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

Each student will choose a specific aspect of perception within the group topic to study (e.g. sour taste detection). Then choose a psychophysical method (constant stimuli, adjustment, method of limits, staircase or signal detection) and a yes-no or forced-choice paradigm to use. 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. 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. *These individual proposals must be handed in with the group proposal on Tuesday, September 25 (see below) and will be marked as complete or incomplete**. **Be sure to include your name, student # and group #.**

3. plan a group experiment:**

This will be done during class on **Tuesday, September 25.**

Each group will design a single experiment to be carried out in class on October 2. You may choose one of the individual proposals from your group members or you may design a new experiment. 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. *Group proposals must be handed in by the end of class and will be marked as complete or incomplete***. **The proposal should include a detailed description of what you plan to do and a list of each student's role in the project.**

You will be contacted by e-mail before Oct. 2 if we anticipate any problems with your design.

4. conduct a group experiment:***

This will be done during class on **Tuesday, October 2.**

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 (otherwise data analysis must be done outside of class time). 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.**

PSYCHOLOGY 367(001&002): Sensory Systems

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

This is an informal oral presentation by your group. Once the group topics have been chosen, each group will be assigned a presentation date that fits with the topics in the Lecture Schedule, beginning Oct. 11. Each student must be involved in either the preparation or oral delivery of the presentation. Be sure to describe the aspect of perception you are measuring, the stimuli, the psychophysical method used, and the results you obtained. Presentations must be limited to **7 minutes**. *A group grade will be assigned based on timing and pacing, creativity, preparation and organization, correctness, completeness, clarity, reference to course material and ability to answer questions. A list of each group member's role in the presentation must be signed and handed in at the end of the presentation.*

6. prepare a research report:****

This is a written report, due **Tuesday, October 30, 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); *Results* (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); *Discussion* (refer back to the research question, describe any problems you encountered, suggest design improvements). *Marks will be given for clarity, neatness, correctness and completeness. The individual report should be no longer than 5 double-spaced pages, not including your data and calculations. Be sure to include your name, student #, group # and section # on the title page.*

Note: you may prefer to hand in one Results section for your group instead of an individual Results section for each group member.

<i>Calculation of Grades</i>	
individual research report	10%*
group class presentation	10%**
total	20% of final grade

**The individual research report grade will be reduced by 10% for students with incomplete proposals and by 20 % for students who fail to hand in an individual proposal.*

*** The group class presentation grade will be reduced by 10% for groups with incomplete proposals.*

****Each student is expected to attend the classes in which their group planning, experiment and presentation take place. Students who do not contribute to or miss a particular component will lose 33% of their group presentation 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.*

*****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.*

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

2
