COURSE OUTLINE

PSYCHOLOGY 368 (001): Perceptual Processing
Term 2, 2011W

Instructor: **Dr. Debbie Giaschi** *office:* Kenny 3531 *phone:* 875-2345x7807
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Teaching Assistants: **Kimberly Meier** (*office:* Kenny 3606) **Nick Bedo** (Kenny 3606)

Textbook: *Sensation & Perception, 2nd edition* (2009) by J. Wolfe, K. Kluender, D. Levi et al. (1 copy on 2-hour reserve in Koerner Library; 1st edition [2006] is not suitable; 3rd edition does not correspond to pages listed in this syllabus)

Website: www.giaschilab.ca/psyc368/psyc368main.html (You will find the course syllabus, instructional objectives, lecture outlines, lecture slides and grades at this site)

Research Manual and CD-ROM: Insight: A Media Lab in Experimental Psychology (2004) by Baro (a copy is on 2-hour reserve in Koerner Library)

Lectures: Tuesdays & Thursdays, 11:00 am - 12:20 pm, Buchanan A104

Office Hours: Kim – Thurs, 9:30–10:30am; Nick – Wed, 3:00-4:00pm ; Dr. G. – Tues, 1:00–2:00pm

We are also easily reached by e-mail at ***psyc368ubc@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.

Grades

Midterm Exam	35%
Final Exam	45%
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.*

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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 ill. 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 or anxiety, your grade will not be changed. Supplemental exams to improve your grade are not offered in the Department of Psychology.

Human Subject Pool Participation: To learn more about psychology and earn up to 3 bonus points toward your course grade, you may participate in research projects between January 4 and April 5. The projects are posted at *hsp.psych.ubc.ca/*. In a given term, you may earn no more than 1 point for online studies. As an alternative to participating in studies, you may read and summarize a research article; each written summary counts as 1 hour of participation. More information can be found at *www.psych.ubc.ca/resguide.psy*. Be sure to check your recorded bonus points for this course at the end of the term at *websec1.psych.ubc.ca/hsp/lookup/index.psy*. These points will be added to your final course grade, after any scaling that may be required.

Accommodations: Please let Dr. Giaschi know as soon as possible if you will be seeking accommodation through Access and Diversity 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 withdrawal date (January 16).

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.*

For details on pertinent University policies and procedures, please see the Academic Regulations section of the UBC Calendar (*students.ubc.ca/calendar*).

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Lecture Schedule and Assigned Readings

Date		Topic	Reading
Jan	5	Object perception: middle vision	Chpt 4 (p. 79-91)
	10	Object perception: recognition	Chpt 4 (p. 92-96; web essay 4.1)
	12	Object perception: faces, physiology	Chpt 4 (p. 96-102; web essay 4.3)
	17	Colour vision: trichromacy	Chpt 5 (p. 105-114)
	19	Colour vision: opponency	Chpt 5 (p. 114-119; web essay 5.1)
		Sign up for research topics	
	24	Colour vision: deficiency, constancy	Chpt 5 (p. 119-131; web essay 5.2)
	26	Depth perception: monocular	Chpt 6 (p. 133-146)
	31	Depth perception: binocular	Chpt 6 (p. 146-155)
Feb	2	Depth perception: physiology, development	Chpt 6 (p. 155-156, 160-167)
	7	Size constancy	Chpt 6 (p. 156-160; web essay 6.3)
	9	***Group project planning***	
		(bring individual data and reference citations to class)	
	14	*****Midterm Exam*****	**(Chpts 4, 5, 6 + web essays)**
	16	Motion perception: detectors	Chpt 7 (p. 169-175)
	21&23	Midterm Break	
	28	Motion perception: physiology	Chpt 7 (p. 175-179; web essay 7.2)
Mar	1	Motion perception: uses, disorders	Chpt 7 (p. 179-182; 186-187)
		Group presentations start	
	6	Eye movements	Chpt 7 (p. 182-186)
	8	Spatial orientation perception	Chpt. 15 (p. 400-415)
	13	Attention: space	Chpt 8 (p. 189-199; web essay 8.2)
	15	Attention: time, physiology, disorders	Chpt 8 (p. 199-209)
	20	Attention: scenes	Chpt 8 (p. 209-217)
	22	Complex sounds	Chpt 10 (p. 260-273)
	27	Music perception	Chpt 11 (p. 275-280)
	29	Speech production	Chpt 11 (p. 281-285)
Apr.	3	Speech perception	Chpt 11 (p. 285-297;web essay 11.1)
	5	Haptic perception	Chpt 12 (p. 316-329)
		Research reports due	
	TBA	***** Final Exam (2 hours)*****	**(Chpts 7, 8, 10[260-273], 11, 12[316-329], 15 [400-415] + web essays)**

Web essays can be found at www.sinauer.com/wolfe2e

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Guidelines for Research Projects

Students will assign themselves to research topics and specific research groups, described below, in class on **Thursday, January 19th**. If you already have a group of 6 students, please send a list of names and e-mail addresses and your top 3 choices for topics to Dr. Giaschi before January 19th.

1. Individual Data Collection

Each student will carry out the experiments assigned to their group (listed below) from the Insight CD-ROM using only themself as a subject. This will be done outside of class time. Be sure to use the stimulus parameters and additional investigations indicated for your group (below) and keep track of the order in which you do the different conditions. Be sure to carry out only the "additional investigations" assigned to your group. The data sheets (graphs, tables, pictures) generated for your experiment must be printed out and handed in with your group material on **Thursday, February 9th**. *Be sure to keep a copy for your written report*. Each student is also responsible for locating a reference relevant to their topic, in addition to the textbook, the Insight manual or the references listed on the Insight CD. The citation for this reference must be handed in with your data on February 9th.

Topics

Scaling Vision – Groups 1, 2 (pages 3-5, 48-49): long stimulus range, linear stimulus spacing, middle standard position, standard value 100; "dots" and "brightness" stimuli

extra discussion topic – Explain what this experiment has taught you about brightness perception.

Additional investigations:

Group 1 – *effect of stimulus range* – collect additional data using the short and the medium stimulus range with the "brightness" stimulus

Group 2 – *effect of standard position*– collect additional data using the high and the low standard position with the "dots" stimulus

Contrast Sensitivity – Groups 3, 4 (pages 16-17, 56): viewing distance 57 cm; method of adjustment

extra discussion topic – Explain how this experiment is related to Fourier analysis.

Additional investigations:

Group 3 – *effect of increasing viewing distance* – collect additional data using a viewing distance of 114 cm. What happens to the spatial frequency? How should contrast sensitivity change? Does it change as expected?

Group 4 – *effect of decreasing viewing distance* – collect additional data using a viewing distance of 28.5 cm. What happens to the spatial frequency? How should contrast sensitivity change? Does it change as expected?

Signal Detection – Groups 5, 6 (pages 20-21, 57-58): "easy", "not so easy", "difficult"; 60 cm viewing distance

extra discussion topic – Explain how this experiment is related to visual acuity.

Additional investigations:

Group 5 – *effect of increasing viewing distance* – collect additional data using a viewing distance of 120 cm.

Group 6 – *effect of decreasing viewing distance* – collect additional data using a viewing distance of 30 cm.

Global Precedence – Groups 7, 8, 9 (pages 8-9, 51-52): global 1st, local 2nd; viewing distance 60 cm

extra discussion topic – Explain how this experiment is related to object recognition.

Additional investigations:

Group 7 – *effect of order* – collect additional data with local 1st, global 2nd

Group 8 – *effect of local/global consistency* – rerun the experiment and analyze the reaction time data according to consistent and inconsistent trials

Group 9 – *error analysis* – rerun the experiment, combine with the first set of data and compare the number of incorrect responses on global versus local trials and on consistent versus inconsistent trials

Depth Perception – Groups 10, 11, 12 (pages 13-15, 55):"crossed", "uncrossed"; viewing distance 60 cm; red lens over right eye

extra discussion topic – Explain how this experiment is related to the correspondence problem.

Additional investigations:

Group 10 – *increasing viewing distance* - collect additional data using 120 cm viewing distance

Group 11 – *decreasing viewing distance* - collect additional data using 30 cm viewing distance

Group 12 – *reversing disparity* - collect additional data with the glasses reversed (red lens over left eye)

Measuring Illusions – Groups 13, 14 (pages 6-7, 50): short, medium, long arrowheads; viewing distance 57 cm

extra discussion topic – Explain how this experiment is related to size constancy.

Additional investigations:

Group 13 – *comparison with other illusions* – collect additional data using the 2 conditions of the vertical/horizontal illusion

Group 14 – *comparison with other illusions* – collect additional data using the 3 conditions of the simultaneous contrast effect

Feature Analysis – Groups 15, 16, 17, 18 (pages 10-12, 53-54): dark gray/light gray, same ends/different ends

warning: the condition green/not green does not work

extra discussion topic – Explain what this experiment has taught you about search efficiency.

Additional investigations:

Group 15 – *effect of different targets/distractors* – collect additional data using line-circles/no-line circles & no-line circles/line circles conditions

Group 16 – *effect of different targets/distractors* – collect additional data using line-letters/no-line letters & no-line letters/line letters conditions

Group 17 – *effect of different targets/distractors* – collect additional data using gap/no gap & no gap/gap conditions

Group 18 – *effect of different targets/distractors* – collect additional data using closed/open & open/closed conditions

2. *Group Planning Session***

Each group of 6 students will combine their individual data and prepare an oral presentation. Time will be provided in class on **Thursday, February 9th**. Do not run additional subjects outside of your group or carry out any of the "additional investigations" except the ones assigned to your group. *Each group must hand in an outline of their presentation, a list of each student's role in the presentation, the individual data for all 6 students and the reference citation for each student*. This material will not be returned to you so be sure to keep a copy.

3. *Class Presentation***

Two groups will present each class, beginning with groups 1 and 2 on **Thursday, March 1st .** Each group will have **7 minutes** for their presentation. Each group member must be involved in either the preparation or oral delivery of the presentation. Be sure to: give some background on your topic, describe how the data were collected and analyzed, show your results and interpret your results. *A group grade will be assigned based on timing, creativity, preparation and organization, 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.**

4. *Individual Research Report**

This is a written report, due **Thursday, April 5th, at the beginning of class.** Each student must hand in their own unique report based on the group data. Answer all of the questions in the manual and organize your report with clearly labeled Introduction, Methods and Discussion sections. Be sure to include the extra discussion topics listed above. *Reports will be graded according to how clearly, completely and accurately the instructions in the manual (and any additional instructions in these Guidelines) have been followed and according to the depth and insightfulness of the Discussion section*. **Be sure to include your name, student # and group # on the title page.** *The report should be no longer than 5 double-spaced pages (12 pt font)*. In addition, each group should hand in one Results section (see *Analyzing Your Data* in Insight manual) that includes the individual and combined data.

Calculation of Grades*

group planning	**5%**
group class presentation	**5%**
individual research report	**10%**
total	**20% of final grade**

- 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.
- You may have difficulty finding a suitable reference for your predicted result if you restrict your search to Google/Yahoo/MSN or even Google Scholar. You will have more success with the indexes and databases available through the Library's website at *www.library.ubc.ca*.

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

*** Each member of a group will receive the group grade, unless they have failed to contribute to the group planning or presentation (as indicated by absence from class or a low score on the peer evaluations).

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