



BIO 215 *Sensation and Perception* (3)

Fall 2013

Instructor: Alan Ho, Ph.D.

Class Time: W 4:00 pm – 6:45 pm

Class Location: RE LL122

Office Hours: By appointment

Office: L2088

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Required Texts: Wolfe, J. M., Kluender, K. R., and Levi, D. M. (2012) *Sensation and Perception* (3rd ed). Sunderland, MA: Sinauer Associates, Inc. (text bundled with PsyCog: Explorations in Perception and Cognition, CD by Wytttenbach)

On Reserve: Goodwin C. J. (2010). *Research in Psychology: Methods and Design*. (6th ed.). Hoboken, NJ: John Wiley & Sons, Inc.

Course Description:

Sensation and perception are two complimentary but different processes in which our nervous system generates a subjective representation of the physical world using information received from our sensory organs. Sensation refers to the process of sensing our environment through vision, audition, touch, smell, and taste. The raw sensory information is sent to our brains for perceptual interpretation where chains of physiological and psychological processes occur. Sensation and perception enable us to make sense of everything around us and help us to react in relation to our environment. This course will examine the major issues and complexities in perception such as solving stimuli ambiguities and the meaning of various illusory perceptions. How knowledge or cognitive “top-down” processes can influence and bias our perceptual interpretation will also be discussed.

Additional Course Information:

The psychological and physiological bases of sensory and perceptual processes, including vision, audition, taste, smell, touch and basic psychophysics.

Course Objectives

At the completion of this course, each student should demonstrate knowledge of the following:

- Basic concepts, laws and principles in perception.
- Various psychophysical and physiological approaches that provide information and insight on how sensory stimulation is linked to perception.
- Processes and mechanisms of how external physical stimulus signals are changed into physiological or neural signals.
- Anatomical organization of the visual and auditory systems.
- Perceptual processing in the visual and auditory systems.
- The process of doing and presenting a research-based project in experimental psychology.

Course Schedule:

Sep 4	Chapter 1 –Introduction
Sep 11	Chapter 2 – The first steps in vision: from light to neural signals
Sep 18	Chapter 3 – Spatial vision: from spots to stripes
Sep 25, 26	<i>Spiritual Emphasis Day (No Daytime Classes)</i>
Oct 2	<i>Unit Exam I (Chapters 1 – 3)</i>
Oct 2, 9	Chapter 4 – Perceiving and recognizing objects
Oct 9, 16	Chapter 5 – The perception of color
Oct 16, 23	Chapter 6 – Space perception and binocular vision
Oct 23	Chapter 7 – Attention and scene perception*
Oct 30	Chapter 8 – Motion perception
Nov 6	<i>Unit Exam II (Chapters 4 – 8)</i>
Nov 13	Chapter 9 – Hearing: physiology and psychoacoustics
Nov 20	Chapter 10 – Hearing in the environment
Nov 27	Chapter 11 – Music and speech perception
Dec 4	<i>Project Presentation</i>
Final Exam Week	<i>Unit Exam III (Chapters 9 - 11)</i>

Course Requirements:

1) Unit Exams (75%).

The three unit exams each worth **25%** ($3 \times 25\% = 75\%$) of the course mark. Each exam will cover material for the identified chapters only. The exams consist of multiple-choice questions, matching, short answer and/or essay questions based on the textbook chapters as well as class notes. You are strongly encouraged to make use of the online study material on the textbook website:

<http://sites.sinauer.com/wolfe3e/home/startF.htm>

2) Term Project (25%).

You will carry out an experimental research study on one particular visual perceptual phenomenon of your choice (consult and work with your instructor) and present it in class using a scientific poster format near the end of the term. Students will work in a team of **two** members. Both members of a team will receive the same grade for the completed assignment, with no exception. This research requires you to design a psychophysical experiment where subjective perceptions on computer generated visual stimuli are assessed from human participants. You will only recruit adult volunteers (age 18 or above) as participant and gain their consent for your study to ensure that participants can understand how they are involved in your study and that they have the right to withdraw from the experiment at any time when feel discomfort. You **must** also ensure the anonymity of your participants in your study. Please ensure you thank your participant with a card or letter at the completion of your project. Your experiment **must** be reviewed and approved by your professor before it can be carried out.

You are expected to use and make reference to your text and *at least* six (6) other scholarly resources (i.e. journal articles) that are directly related to your project. You will present the results of your research to the class in the form of a **scientific poster**. Marks will be given for content, logic, clarity of thought, appropriate study design, data analysis, and correct interpretation of the theory involved. A **six page written report** (APA style) and a **one page class handout** containing a brief introduction, literature review, methods, results and discussion sections are **due on Nov 27** at the beginning of the class period. Late submission will result in deduction of 10% of mark per day, weekends included. This report carries **20%** of mark for the course. The class presentation takes up the remaining **5%** mark. *A student will receive an F grade for the course if the student did not participate in a term project nor show up for class presentation.*

Course Guidelines:

1. Attendance at class is expected from each student. A **2%** course mark will be deducted for an unexcused absence. After two (2) unexcused absences (per term), the instructor reserves the right to ask a student to withdraw from the class.
2. Exams must be taken at the times specified. The written report is due on the date specified. No extension will be granted. In the case of illness or other extenuating circumstances, exception will be made only with proof of an official medical document.

Grade Structure:

Percentage:	Letter Grade:	Grade Point Weight:
96-100	A+	4.0
91-95	A	4.0
86-90	A-	3.7
82-85	B+	3.3
75-81	B	3.0
72-74	B-	2.7
68-71	C+	2.3
63-67	C	2.0
60-62	C-	1.7
56-59	D+	1.3
50-55	D	1.0
0-49	F	0

Please note that final grades will be available on your student portal. Printed grade sheets are no longer mailed out.

Important Notes

- Last day to enter course without permission and/or voluntarily withdraw from course without financial penalty: **Sep 15**.
- Last day to voluntarily withdraw from course or change to audit without academic penalty: **Nov 12**.
- Paper Format: Please follow the guidelines of the new *Publication Manual of the American Psychological Association*.
- The Minimum Standards for Written Compositions will apply in this course. Please see me if you do not have a copy.
- It is the responsibility of all students to become familiar with and adhere to Ambrose University College Academic Policies, such as the policy on Academic Dishonesty, which are stated in the current Catalogue.

Learning and Classroom Etiquette

In the Behavioural Science Department we believe that learning is an active and interactive process, a joint venture between student and teacher and between student and student (i.e., learning is not just “downloading” information from teacher to student). Therefore, it is expected that professors will come to each class well read and prepared to engage students on the topic at hand, giving students the utmost attention and respect. In turn, it is expected that students will take an active role in the learning process. This includes: (a) regular class attendance, (b) reading course material in advance of class, (c) showing up to class on time, and (d) attentively and proactively being “present” at class (i.e., not on the internet, not texting, not conversing with the person beside you). Committing to this type of “active learning” significantly increases the learning experience for both

teacher and student, and reflects the Christian ethos of excellence and respect that lies at the heart of the Ambrose educational experience.

It is the responsibility of all students to become familiar with and adhere to academic policies as stated in the Student Handbook and Academic Calendar. Personal information, that is information about an individual that may be used to identify that individual, may be collected as a requirement as part of taking this class. Any information collected will only be used and disclosed for the purpose for which the collection was intended. For further information contact the Privacy Compliance Officer at privacy@ambrose.edu.

Although extensions to coursework in the semester are at the discretion of the instructor, students may not turn in coursework for evaluation after the last day of the scheduled final examination period unless they have received permission for a "Course Extension" from the Registrar's Office. Requests for course extensions or alternative examination time must be submitted to the Registrar's Office by the appropriate deadline (as listed in the Academic Calendar <http://www.ambrose.edu/publications/academiccalendar>). Course extensions are only granted for serious issues that arise "due to circumstances beyond the student's control."

We are committed to fostering personal integrity and will not overlook breaches of integrity such as plagiarism and cheating. Plagiarism and cheating can result in a failing grade for an assignment, for the course, or immediate dismissal from the university college. Students are expected to be familiar with the policies in the current Academic Calendar and the Student Handbook that deal with plagiarism, cheating, and the penalties and procedures for dealing with these matters. All cases of academic dishonesty are reported to the Academic Dean.

Students are advised to retain this syllabus for their records.

Course changes, including adding or dropping a course, may be made during the Registration Revision period, as outlined in the Calendar of Events. All course changes must be recorded on a Registration form, available from the Office of the Registrar. Due to circumstances such as class size, prerequisites or academic policy, the submission of a Registration form does not guarantee that a course will be added or removed from a student's registration. Students may change the designation of any class from credit to audit up to the date specified in the Calendar of Events, although students are not entitled to a tuition adjustment or refund after the Registration Revision period.

Withdrawal from courses after the Registration Revision period will not be eligible for tuition refund. Students intending to withdraw from some or all of their courses must submit a completed Registration form to the Registrar's office. The dates by which students may voluntarily withdraw from a course without penalty are listed in the Calendar of Events. A grade of 'W' will be recorded on the student's transcript for any withdrawals from courses made after the end of the Registration Revision period and before the Withdrawal Deadline (also listed in the Calendar of Events). 'W' grades are not included in grade point average calculations. A limit on the number of courses from which Academic a student is permitted to withdraw may be imposed. Students wishing to withdraw from a course, but who fail to do so by the applicable date, will receive the grade earned in accordance with the course syllabus. A student obliged to withdraw from a course after the Withdrawal Deadline because of health or other reasons may apply to the Registrar for special consideration.

An appeal for change of grade on any course work must be made to the course instructor within one week of receiving notification of the grade. An appeal for change of final grade must be submitted to the Office of the Registrar in writing within 30 days of receiving notification of the final grade, providing the basis for appeal. A review fee of \$50.00 must accompany the appeal to review final grades. If the appeal is sustained, the fee will be refunded.

Academic dishonesty is taken seriously at Ambrose University College as it undermines our academic standards and affects the integrity of each member of our learning community. Any attempt to obtain credit for academic work through fraudulent, deceptive, or dishonest means is academic dishonesty. Plagiarism involves presenting someone else's ideas, words, or work as one's own. Plagiarism is fraud and theft, but plagiarism can also occur by accident when a student fails or forgets to give credit to another person's ideas or words. Plagiarism and cheating can result in a failing grade for an assignment, for the course, or immediate dismissal from Ambrose. Students are expected to be familiar with the policy statements in the current academic calendar and the student handbook that deal with plagiarism, cheating, and the penalties and procedures for dealing with these matters. All cases of academic dishonesty are reported to the Academic Dean and become part of the student's permanent record.

Notable Websites:

- Visual Perception <http://www.yorku.ca/eye/> ;
- Visual Illusions <http://www.eyetricks.com/illusions.htm> ;
- <http://www.michaelbach.de/ot/>
- Auditory List <http://www.auditory.org/>
- 3-D Brain Anatomy (PBS) <http://www.pbs.org/wnet/brain/3d/index.html>
- The Harvard Mahoney Neuroscience Institute Letter
http://www.med.harvard.edu/publications/On_The_Brain/
- American Psychological Association <http://www.apa.org>
- Canadian Psychological Association <http://www.cpa.ca>
- Psych Web (APA style, psychology careers, journals)
<http://owl.english.purdue.edu/owl/resource/560/01/>
- Journal of Vision <http://www.journalofvision.org/>