



AMBROSE
UNIVERSITY COLLEGE

BIO 419 Visual Perception (3)

Winter 2014

Instructor: Dr. Alan Ho, Ph.D

Class Time: Tu/Th 1:00 pm – 2:15 pm

Class Location: L2082

Office Hours: By appointment

Office: L2088

Phone: 571-2550 Ext. 5911

E-Mail: aho@ambrose.edu

Required Texts:

Zakia, R.D. (2013). *Perception and Imaging. Photography – A Way of Seeing*. (4th ed.). New York, NY: Focal Press.

Snowden, R., Thompson, P. & Troscianko, T. (2012). *Basic Vision: An Introduction to Visual Perception*. (Revised ed.). New York: Oxford University Press.

Course Description:

This course examines how the human visual system processes sensory information to produce a subjective visual reality of the world. Topics include anatomy of the visual system, visual processing of brightness, colour, form, motion and depth. Implications of visual illusion studies on the perceptual process will be discussed. Use of psychophysical techniques to generate visual sensitivity functions will also be introduced.

Further Course Information:

Visual perception concerns the processes of how the human visual system generates a subjective representation of the physical environment from the light information received. We will review and discuss in detail on topics such as perception of brightness, colour, motion, form, depth and stereopsis, as well as effects of attention on perception in this course. We will examine some proposed strategies that explain how stimuli ambiguities could be solved by the perceptual mechanism. How various illusory perceptions reveal about the function of the underlying perceptual mechanisms will also be discussed. Lectures and class discussions will be based on readings from textbook.

Course Objectives

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

- How various aspects of visual stimuli in the environment can be encoded biologically.
- Anatomical organization of the visual system.
- Various psychophysical and physiological approaches that provide information and insight on how visual stimulation is linked to perception.
- Basic to advanced concepts, laws and principles in visual perception.
- Perceptual processing revealed by patients with brain damage affecting different aspects of their vision.

Course Schedule:

Jan 9	Introduction
Jan 14, 16	Chapter 1 – The first steps in seeing
Jan 21, 23	Chapter 2 – Signaling changes
Jan 28	Chapter 3 – To the cortex
<i>Jan 30</i>	<i>Program Day (No class)</i>
Feb 4	Chapter 3 – To the cortex
Feb 6, 11	Chapter 4 – Spatial vision
Feb 13, 25	Chapter 5 – Colour vision
<i>Feb 18-21</i>	<i>No Classes (Mid-semester Break)</i>
<i>Feb 27</i>	<i>Unit Exam #1 (Chapters 1-5)</i>
Mar 4, 6	Chapter 6 – The perception of motion
Mar 11, 13	Chapter 7 – The third dimension
Mar 18, 20	Chapter 8 – The development of vision
Mar 25, 27	Chapter 9 – Attention and neglect
Apr 1, 3	Chapter 10 – The perception of faces
Apr 8, 10	Chapter 11 – Vision and action
<i>Apr 18 (1-4pm)</i>	<i>Unit Exam #2 (Chapters 6 -11)</i>

Course Requirements:

- 1) **Unit Exams (60%).**

The first and second unit exam will be worth **30%** each of the course mark and will cover material for the identified chapters only. Each exam may consist of multiple-choice questions, short answer and/or essay questions based on the textbook chapters as well as class notes.

2) Term Project (40%)

You will write a critical literature review on one particular visual perceptual phenomenon (e.g., apparent motion, 3D shape from shading) and present your project in class. You are expected to use and make reference to your textbook and at least **twelve (12)** other scholarly resources that are directly related to your review. The length of the paper will be **12** pages max, double-spaced, 12-point font and not including references. Marks will be given for precision and accuracy of contents, clarity and depth of thought, good APA writing style and relevant references. You may turn in a draft of this report by **Mar 18th** to receive feedback prior to handing in the final copy. This assignment is **due Apr 5th** at the beginning of the class period.

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	N/A

Important Notes:

- The last day to enter a course without permission is **Jan 19th**.
- The last day to withdraw from the class without academic penalty is **Mar 21st**.
- Final grades will be available on the student portals. Printed grade sheets are no longer mailed out.

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.

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.

Notable Websites:

- Visual Illusion <http://www.michaelbach.de/ot/index.html>
- Visual Perception <http://www.yorku.ca/eye/> ; <http://vipelib.york.ac.uk/>
- Vision Science <http://www.visionscience.com/>
- The Eye Digest [www.agingeye](http://www.agingeye.com/)
- The Journal of Vision <http://journalofvision.org/1/1/>
- The Harvard Mahoney Neuroscience Institute Letter http://www.med.harvard.edu/publications/On_The_Brain/