

## Psychology 438/538: Perception

Winter 2018 (CRN 25837/25847)

MW 2:00-3:20 (221 MCK)

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Office hours (330 LISB): Tues 3:00-5:00pm or by appointment

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**Required Materials:** Sensation and Perception, 10<sup>th</sup> Edition by E.B. Goldstein & J.R. Brockmole (2017). This is a comprehensive text for the course. A copy of the text is on reserve at the Knight Library. There is a website which accompanies the text book: [http://www.wadsworth.com/cgi-wadsworth/course\\_products\\_wp.pl?fid=M20b&product\\_isbn\\_issn=9780495601494&token](http://www.wadsworth.com/cgi-wadsworth/course_products_wp.pl?fid=M20b&product_isbn_issn=9780495601494&token).

*iClickers:* iClickers are small hand-held electronic devices that allow you to provide an immediate response to questions posed in class as part of your participation/attendance grade. Although the UO Bookstore sells only the iClicker 2, older versions of the iClicker should work fine in this course. It is very important that you register your iClicker on the Canvas site, and *bring your iClicker with you to every class!*

**Course Description:** In this course, we will examine the perceptual abilities of the human brain, including vision, hearing, and touch. Toward this end, we will include discussion of the methods used by scientists to examine perceptual abilities, the capabilities and limitations of perception, current knowledge of the underlying neural bases of perception, and brain damage that may affect perception. Perception involves the transformation of incoming signals into useful information or "representations" of the world. While perception seems automatic and effortless, it is really a complicated constructive process. The goal of the course is to understand some of the processes involved in this construction. The modern day study of perception is an interdisciplinary pursuit that includes studies of behavior, the brain, and computers. This course deals with all three types of studies with an emphasis on the first two. It is my hope that by the end of this course, you will have a new appreciation for how you experience the world on a daily basis.

**Course Objectives:** To learn about different forms of perception and various behavioral and neuroscience methodologies; to develop an understanding of how perceptual systems are organized in the brain and how neural computations give rise to perceptual experience.

**Course Format and Expectations:** The material in this course will be presented through a combination of assigned reading from the text and other sources, class lectures, in-class discussion, and demonstrations. Lecture material and readings will have some overlap, but will not be replications of each other; some lecture material will not be covered in the readings and vice versa. You are expected to do the assigned reading *before* the class period in which it is due. Discussions of the material during lecture will be more fruitful if you have at least a general understanding of the material beforehand, helping you to ultimately comprehend and retain the material.

Many aspects of this material can best be understood through demonstration. Most or all of these demonstrations will not be available to you outside of the lectures due to copyright and intellectual property laws. Likewise, lectures will include material that is not covered in your readings. Therefore,

regular attendance is essential for performing well in this class and is strongly encouraged. Questions are encouraged in all parts of the course including during class time, office hours, and via e-mail.

The course is structured in a way that is intended to help you learn the materials, but you will need to put effort into the class in order to learn and succeed. If you encounter difficulties along the way, PLEASE contact the instructor or teaching assistant as soon as possible. It is much easier to help you succeed when you make us aware of any problems in a timely manner.

**Workload:** This is a 4-credit course. According to University principles governing credit and contact hours, each credit equals 30 hours of work for the term. Four credits are therefore equivalent to 120 total hours for the term, or 12 hours per week for 10 weeks. You will spend approximately 3 hours in class each week. That means that you should be spending roughly 9 hours per week reading, studying, and completing assignments outside of class. Your performance in this class will be much higher if you plan accordingly.

**Course Work:** The course work consists of 4 exams, credit for participation/attendance, as well as a final paper (required for PSY 538 students only).

Exams: The exams consist of a mix of multiple choice questions, as well as short answer and essay questions. For PSY 438 students, the first 3 exams will each count for 25% of your grade, the 4<sup>th</sup> exam (which covers less material) will count for 20% of your grade.

**No makeup exams will be given without a valid, excused absence.** You will need to present a documented excuse (e.g., doctor's note, court order, or documented athletic events for student athletes) for a missed exam in order to take a makeup exam. The documented excuse must be presented before (if possible) or as soon as possible following the exam. **Makeup exams will be administered during the final exam period to only those students with previously excused absences.**

Class Participation and Attendance: Periodically, during class, I will ask questions which you will answer using your *iClicker*. The purpose of this is for me to get some idea of the depth of your understanding of the topics discussed during lecture. If you are in class when the questions are asked, you will get participation points for answering. Unless otherwise announced, I will use the iClicker answers only to tell me more about overall class understanding or as a tool for class demonstrations. The number of iClicker questions per class will vary; your attendance grade will be determined by the percentage of clicker questions you complete. To allow for occasional absences, you will only be required to answer 90% of the iClicker questions presented throughout the term to get full participation/attendance points.

Paper: In addition to completing the work required for Psychology 438, graduate students enrolled in 538 are required to complete a 6-8 paged paper which can either be 1) an integrative review paper on a research topic related to topics covered in class or 2) a research proposal paper. For the review paper, I suggest that you use the text book as a source for selecting a general topic, followed by library, PsychINFO, and Medline searches for articles. The research proposal paper can be written like a grant proposal (or a journal paper). It should have an introduction, methods (describing proposed experiments, stimuli, procedures, etc.), a description of expected results, a discussion of what various results might mean, and references. **The paper topic must be approved by the 7<sup>th</sup> week of class (by February 19<sup>th</sup>).** The paper will be due at the last class meeting.

Extra Credit: You will be able to earn extra credit on examinations by answering questions taken directly from optional readings available on the course website. These readings will enhance your

understanding of perceptual processes in everyday life, including the ways in which artists, designers and architects explore and manipulate these phenomena in their work. Extra credit readings for each exam will be available as PDFs on Canvas posted at least one week prior to each exam.

You can also earn up to 2 points of extra credit (added to your final score) by participating in up to 2 hours of ongoing experimental research in the Psychology Department or by writing a short 2-paged paper. The paper can be 1) a written description of a phenomenon described in a recent news item and its relation to the information presented in the lecture and reading (you may execute a web search to find pictures/videos to accompany your paper, and/or dig into the scientific literature to find relevant details and hard data), or 2) a description of (and link to) a demonstration of a psychological phenomenon and its relation to information presented in the lecture and reading materials.

### Grading:

	<u>438 students</u>	<u>538 students</u>
Exam #1	25%	20%
Exam #2	25%	20%
Exam #3	25%	20%
Exam #4	20%	15%
Participation	5%	5%
Paper		20%

----- = 100% Total

Letter grades will be determined as follows: A (90 - 100% of total possible points), B (80 - 89%), C (70 - 79%), D (60 - 69%), F (0 - 59%). However, I reserve the right to relax (but not stiffen) these criteria by lowering the grade cutoffs, depending on the actual distribution of grades.

**Course Website:** The course website on Canvas ([canvas.uoregon.edu](https://canvas.uoregon.edu)) will provide important supplemental information for the course (syllabus, readings, lecture slides, study guides, grades, etc.).

**Course Outline:** The course outline presented below may be revised as the quarter progresses, and updates will be posted on the course website. Dates on which particular topics are to be presented in lecture are subject to change, as are reading assignment due dates. However, the dates of examinations will remain the same. Note that dates pertaining to assigned readings indicate when they should be completed.

**Students with Disabilities:** If you have a documented disability and anticipate needing accommodations in this course, please make arrangements to meet with the instructor as soon as possible. Also, please request that the Counselor for Students with Disabilities send a letter verifying your disability. For a list of resources provided by the Accessible Education Center, please see [aec.uoregon.edu](https://aec.uoregon.edu).

**Academic Honesty:** All work submitted in this course must be your own. For the consequences of academic dishonesty, refer to the Schedule of Classes published quarterly. Violations will be taken seriously and are noted on student disciplinary records. If you are in doubt regarding any aspect of these issues as they pertain to this course, please consult with the instructor before you complete any relevant requirements of the course. (For more information, see the UO web site regarding student conduct, <http://dos.uoregon.edu/conduct>.)

**Courtesy:** Out of courtesy for other students and out of respect for the class, I request the following: (1) Please turn off your cell phone during class. (2) Note taking by computer is ok, but please refrain from computer use during class that is unrelated to note taking. (3) Please do not chat with others during class. (4) Please be on time. I will start and end class on time.

**Prohibited Discrimination and Harassment Reporting:** Any student who has experienced sexual assault, relationship violence, sex or gender-based bullying, stalking, and/or sexual harassment may seek resources and help at [safe.uoregon.edu](https://safe.uoregon.edu). To get help by phone, a student can also call either the UO's 24-hour hotline at 541-346-7244 [SAFE], or the non-confidential Title IX Coordinator at 541-346-8136. From the SAFE website, students may also connect to Callisto, a confidential, third-party reporting site that is not a part of the university. Students experiencing any other form of prohibited discrimination or harassment can find information at [respect.uoregon.edu](https://respect.uoregon.edu) or [aaeo.uoregon.edu](https://aaeo.uoregon.edu) or contact the non-confidential AAEO office at 541-346-3123 or the Dean of Students Office at 541-346-3216 for help. As UO policy has different reporting requirements based on the nature of the reported harassment or discrimination, additional information about reporting requirements for discrimination or harassment unrelated to sexual assault, relationship violence, sex or gender based bullying, stalking, and/or sexual harassment is available at <http://aaeo.uoregon.edu/content/discrimination-harassment>. Specific details about confidentiality of information and reporting obligations of employees can be found at <https://titleix.uoregon.edu>.

**Mandatory Reporting of Child Abuse:** UO employees, including faculty, staff, and GEs, are mandatory reporters of child abuse. This statement is to advise you that that your disclosure of information about child abuse to a UO employee may trigger the UO employee's duty to report that information to the designated authorities. Please refer to the following links for detailed information about mandatory reporting: <https://hr.uoregon.edu/policies-leaves/general-information/mandatory-reporting-child-abuse-and-neglect/presidents-message>.

## Topics & Readings:

<u>Week</u>	<u>Date</u>	<u>Topic and Readings</u>
1	1/8 1/10	Introduction: Approaches to Studying Perception-- <i>Chapter 1</i> Neural Processing I: Introduction & Methods-- <i>Chapter 2</i>
2	1/15 1/17	No Class – MLK Holiday Neural Processing II: Vision-- <i>Chapter 3</i>
3	1/22 1/24	Neural Processing III: Vision-- <i>Chapter 4</i> Neural Processing Cont.
4	1/29 1/31	<b>EXAM #1</b> Color Perception-- <i>Chapter 9</i>
5	2/5 2/7	Object & Scene Perception-- <i>Chapter 5</i> 3D Shape, Depth, & Space Perception-- <i>Chapters 10, 5(pp.109-110), &amp; 8(pp.187-189)</i>
6	2/12 2/14	3D Shape, Depth, and Space Perception--Cont. <b>EXAM #2</b>
7	2/19 2/19 2/21	<b>Paper Topic Approval Due</b> (PSY 538 Students only) Motion Perception-- <i>Chapter 7 (pp. 149-155) &amp; Chapter 8</i> Perception and Action-- <i>Chapter 7 (pp. 155-169)</i>
8	2/26 2/28	Attention-- <i>Chapter 6</i> <b>EXAM #3</b>
9	3/5 3/7	Audition: Sound, the Auditory System, & Pitch-- <i>Chapter 11</i> Audition: Sound Localization & the Auditory Scene-- <i>Chapter 12</i>
10	3/12 3/14	Somatosensation-- <i>Chapter 14</i> <b>EXAM #4</b> (All students) & <b>Paper Due</b> (PSY 538 Students only) & <b>Extra Credit Points Due</b> (All students)
11	3/19	<b>*Makeup Exams</b> --Monday at 2:45pm of Finals Week

**\*Note:** No final exam will be given. The Final Exam period (Monday, 3/19, 2:45-4:45) will be used for administering *pre-approved* makeup exams only.