

SENSATION AND PERCEPTION

HC 441H

University of Oregon
Clark Honors College
Winter 2022

Course Information

Meeting Times: Monday and Wednesday 4:00-5:50

Meeting Location: Anstett Hall 192

Credit Hours: 4

CRN: 24879

Instructor: Lindsay Collins, Ph.D.

Email: lcollins@uoregon.edu

Office Hours: Tuesday 10:30-11:30 Unthank Hall 205A and Friday 10:30-11:30 Huestis Hall 211.

Email for Zoom access to office hours or to set up an appointment outside of these times.

Course Description

Shared sensory experiences have the power to deepen interpersonal connections and to improve psychological well-being. However, the internal perception of sensory experiences and the way in which they are integrated into a meaningful worldview varies across individuals as well as cultures, throughout one's life, and even on a moment-to-moment basis. This course uncovers ways in which the perception of our sensory world can be altered in both healthy and diseased states and explores the psychological and societal implications of such manipulation.

This course takes a neuroscientific approach to understanding sensation and perception. Students will learn to critically evaluate current neuroscience literature, be guided through development of hypotheses and experimental design, and practice connecting scientific findings to life outside of the classroom.

Learning Outcomes

After successful completion of this course, students will have demonstrated:

- ❖ Basic understanding of systems-level neural mechanisms of vision, audition, somatosensation, and chemosensation;
- ❖ Familiarity with current methodology in neuroscience and psychology;
- ❖ Ability to critically engage with neuroscience research and to communicate important findings;
- ❖ Awareness of the limitations of our own perceptive experience.

Class Structure

This class will cover 4 very broad topics: Vision, Audition, Chemosensation, and Somatosensation. Each topic will be explored in 3 ways:

Foundations

- ❖ Purpose: To gain a fundamental understanding of the neural pathways associated with each sensory system/topic and a general appreciation for the current state of the field.
- ❖ Before Class: Thorough and thoughtful reading of assigned materials.
- ❖ In-Class: Discussion and activities related to structure and function of sensory systems.

Complications

- ❖ Purpose: To understand ways in which our perception can differ from reality.
- ❖ Before Class: Completion of Complications Activities (posted on Canvas).
- ❖ In-Class: Discussion and activities related to perceptual phenomena.

Interactions

- ❖ Purpose: To analyze the societal and biological implications of mismatched reality and perception.
- ❖ Before Class: Thoughtful reading of all assigned texts. Moderators should come prepared with discussion points and/or learning activities. Moderators should plan to meet with me once before their assigned class period to discuss plans.
- ❖ In-Class: Moderator groups of 2-3 will lead in-class discussions and/or activities related to their assigned topic. Two Interactions topics will be covered during these class periods, meaning that each group will be given 50 minutes. Each student will be assigned one topic.

Assignments and Assessment

Pre-Course Assessment (5% of final grade)

A brief assessment is posted on Canvas for you to complete by the beginning of our second class period. The purpose of this assessment is to gauge how I can best tailor this course to all student's interests and needs. As such, this assessment is graded for completion only. You will also be given the opportunity to rank your preferences for discussion moderation topics. The pre-course assessment can be accessed on Canvas.

In-Class Engagement (15% of final grade)

Discussion of scientific findings and related societal implications is a major component of this course. The success of these discussions relies on engaged participation from all class members. The Interactions Class Moderation Guidelines document on Canvas details strategies that I recommend to create a space where every student has a voice and no one student controls the direction of the discussion. If I feel that your contribution to in-class discussion is lacking in substance, frequency, or respect, I will reach out to you personally.

Complications Activities (15% of final grade)

To deepen your understanding of each sensory system, you will investigate ways in which our perception of a sensory stimulus can differ from reality. While each Complications Activity will have a different structure, all will focus on researching a perceptual phenomenon and communicating your findings. Activity guidelines will be posted on Canvas and discussed in class.

Interactions Moderation (15% of final grade)

Once during the term you and 1-2 group members will be responsible for moderating half of our Interactions class. You will work together to plan discussion topics and classroom activities. I have uploaded recommended reading materials to Perusall, but you may also want to do additional reading. You are encouraged to meet with me to go over any questions or concerns you have about your discussion topic before class, as well as your plans for the class structure. You may request to alter assigned readings. *Any alteration requests must be approved by me at least one week before the class period.* All group members should be actively involved in facilitating the discussion. Interactions Moderations grades will be assigned based on creativity and relevance of classroom activities and demonstrated depth of understanding and engagement with the topic.

Group Project (25% of final grade)

Throughout this course, you will learn neuroscientific mechanisms underlying sensation and perception and will explore how sensation and perception can be manipulated in healthy states. For your group project, you will investigate how sensation and perception can be altered in a diseased state. This project is designed to challenge your research skills, ability to collaborate with a group, and ability to present your findings clearly. You will be given 25 minutes to present your findings to the class during the last two class periods. You will also write an essay detailing your findings and reflecting on the process. Details on this assignment can be found on Canvas and will be discussed in class. Some in-class time will be dedicated to working on this project, but you should plan to meet with your group outside of class often.

Term Paper (25% of final grade)

To demonstrate your understanding of course materials and ability to clearly communicate ideas, you will write a term paper in the format of a pop science-style article investigating a sensory or perceptual phenomenon. Details on this assignment can be found on Canvas and will be discussed in class.

Time Management

Plan to dedicate about 120 hours to this class over the course of the term. Each week you should anticipate spending approximately 4 hours in class and 4-5 hours preparing for class (reading, thinking, completing Complications Activities). In addition, you should commit about 5 hours to preparing for your role as an Interactions Moderator, 15 hours to preparing your Final Paper (first draft due mid-term, final draft due end of term), and 10 hours planning and implementing your Group Project. These estimates may need to be adjusted depending on your work and study style.

Class Policies

Grading

Final letter grades will be assigned as follows:

A+	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F
100-97	93-96	90-92	87-89	83-86	80-82	77-79	73-76	70-72	67-69	63-66	60-62	<60

Late Work

For some assignments in this class (readings, discussion moderation), it is critical that you come to class prepared with a completed assignment, so I cannot accept late work. For other assignments, I will consider extension requests. If you feel that you will have difficulty completing any of these assignments before the due date, reach out to me as soon as possible. I will do my best to accommodate reasonable extension requests, but I cannot guarantee that an extension will be possible. You are not expected to provide a reason for your extension request. I only expect that you will show respect for my time and for your own learning.

Extension request policies are detailed below:

Assignment	Late Work Deduction	Eligible for Extension
Pre-Course Assessment	20% of the grade will be deducted if submitted late.	Yes
Preparation for in-class discussion	Late preparation is not acceptable.	No
Complications Activities	15% of Complications Activities grade will be deducted for each late submission.	Yes
Discussion Moderation	Late preparation is not acceptable.	No
Group Project: Topic Approval	Late preparation is not acceptable.	No
Group Project: Presentation	Late preparation is not acceptable.	No
Group Project: Reflective Essay	15% will be deducted from the Reflective Essay score for every day it is late.	Yes
Term Paper Draft	25% of the Draft score will automatically be deducted if submitted late.	Yes
Term Paper	15% will be deducted from the Term Paper score for every day it is late.	Yes

Accessibility

Please notify me if there are aspects of the instruction or design of this course that result in disability-related barriers to your participation. You are also encouraged to contact the Accessible Education Center in 360 Oregon Hall at 541-346-1155 or uoaec@uoregon.edu.

Attendance

You are allowed one absence for any reason with no penalty during a class when you are not presenting. You do not need to inform me that you will be absent, but you will be expected to

submit any assignments due that day by 4:00pm. After one absence, your In-Class Discussion grade (15% of your final grade) will be reduced by 30 points per absence. COVID-19 related absences will not count against you. Please do not come to class if you are experiencing symptoms (see below for more detailed COVID-19 policies). You are still responsible for completing your assigned work.

If you miss the class period in which you are scheduled to lead our discussion, your Discussion Moderation score (10% of final grade) will be a zero. If you miss the class period in which you are scheduled to present your Group Project, your Group Project score (25% of final grade) will be reduced by 50%. If you foresee needing to miss one of these class times, contact me immediately to reschedule your presentation or discussion.

Academic Integrity

The University Student Conduct Code (available at conduct.uoregon.edu) defines academic misconduct. Students are prohibited from committing or attempting to commit any act that constitutes academic misconduct. By way of example, students should not give or receive (or attempt to give or receive) unauthorized help on assignments or examinations without express permission from the instructor. Students should properly acknowledge and document all sources of information (e.g. quotations, paraphrases, ideas) and use only the sources and resources authorized by the instructor. If there is any question about whether an act constitutes academic misconduct, it is the students' obligation to clarify the question with the instructor before committing or attempting to commit the act.

Classroom Behavior

Students are expected to come to class prepared and stay engaged throughout the class period. Use of any electronic device to aid learning is allowed. Students are expected to demonstrate respect and kindness to the instructor and all classmates.

Mandatory Reporting Obligations

I am a student-directed employee. For information about my reporting obligations as an employee, please see [Employee Reporting Obligations](#) on the Office of Investigations and Civil Rights Compliance (OICRC) website. Students experiencing sex or gender-based discrimination, harassment or violence should call the 24-7 hotline 541-346-SAFE [7244] or visit safe.uoregon.edu for help. Students experiencing all forms of prohibited discrimination or harassment may contact the Dean of Students Office at 541-346-3216 or the non-confidential Title IX Coordinator/OICRC at 541-346-3123. Additional resources are available at investigations.uoregon.edu/how-get-support. I am also a mandatory reporter of child abuse. Please find more information at [Mandatory Reporting of Child Abuse and Neglect](#).

Emergency Policies

In the event of a campus emergency that disrupts academic activities, course requirements, deadlines, and grading percentages are subject to change. Information about changes in this course will be communicated as soon as possible by email, and on Canvas. If we are not able to meet face-to-face, students should immediately log onto Canvas and read any announcements

and/or access alternative assignments. Students are also expected to continue coursework as outlined in this syllabus or other instructions on Canvas. In the event that the instructor of this course has to quarantine, this course may be taught online during that time.

Tentative Course Schedule

Check Canvas for the most up-to-date course schedule, including required preparation.

Date	Topic
1/3 M	Course Intro/ Neuro Crash Course pt. 1: Fundamentals of neural communication
Pre-course assessment due 1/5 (start of class)	
1/5 W	Neuro Crash Course pt. 2: Common methodologies in sensory neuroscience
1/10 M	Neuro Crash Course pt. 3: Sensory neuroscience in the real world
1/12 W	Vision foundations
1/17 M	NO CLASS (MLK Jr. Day)
1/19 W	Vision complications
1/24 M	Vision interactions: I - Hallucinations; II - Virtual and augmented reality
1/26 W	Audition foundations
1/31 M	Audition complications
2/2 W	Audition interactions: I: Music; II - Soundscaping
2/7 M	Chemosensation foundations
Last day to get Term Paper topic approval (in-person or email) 2/8	
2/9 W	Chemosensation complications
2/14 M	Chemosensation interactions: I - Smell in our social lives; II - Disgust
Last day to meet for Group Project approval 2/11	
2/16 W	Somatosensation foundations
2/21 M	Somatosensation complications
2/23 W	Somatosensation interactions: Pain
2/28 M	Term Paper and Group Project Work Session
Term Paper Draft Due 3/1 (9:00 am)	
3/2 W	Other Interactions: I - Sense of self; II - Interoception
3/7 M	Presentations
3/9 W	Presentations
Reflective Essay AND Term Paper Due 3/14 (9:00am)	