

PSY 301. Sec 02. Sensation & Perception
SEC 118, Busch Campus
Mon/Thurs @ 10:20 – 11:40 am

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Office Hours in 223 Tillett Hall
Mon: 12 - 2 pm, open OH's
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Course Description

This course emphasizes classic concepts, theories, and research regarding the psychophysical, neural and mental processes involved in sensation and perception. There will be a review of each of the five major senses, with an emphasis on vision and hearing. The course will provide a survey of perceptual processes, an appraisal of current theories. The fundamental phenomena and mechanisms of the visual, auditory, gustatory, olfactory and cutaneous systems will be described and related to underlying physiological processes as well as their developmental trajectories and subsequent sensorimotor functions.

Prerequisite: a passing grade in an entry-level course, such as Introductory Psychology.

Course Goals

- In this class you will learn about the foundations of perception, with an emphasis on sight and hearing, and more broadly how we are able to make sense of the world around us based on the input from our five senses. Several important discoveries have been made through the study of perception, including some of the deepest insights about how the nervous system develops and functions. This class will highlight the ways in which this information was discovered and what we can conclude from these facts. This course also places an emphasis on scientific reasoning about how we come to know the few things that we really know about sensory and perceptual processing mechanisms in humans and other animals.
- You will learn about research that is conducted to study sensory processes, namely how we are able to perceive, interpret, attend to, and remember information about sounds, colors, shapes, and 3D objects, as well as dynamic actions and events in the world around us.
- This course will provide you with a scientific basis for understanding sensory abilities and perceptual processes in humans, non-human primates and other animal species.

Student Learning Objectives

By the end of this course, students will be able to:

- Differentiate between the various behavioral research methods and neuroscience techniques devised for evaluating and comparing perceptual abilities in humans and non-human animals.

- Identify the neural substrates of perception across all five sensory modalities, and describe the pathways from receptors to cortical receiving areas for each of the five senses.
- Describe theoretical models of visual perception, object recognition, mechanisms of attention, hearing, and speech and language perception.
- Develop analytical thinking skills and gain experience with reading and evaluating scientific research.

Textbook

Goldstein, E. B. (2010). *Sensation & Perception*, 8th ed. Cengage Learning. (ISBN-10: 0495601497 & ISBN-13: 9780495601494).

Note: A copy of the book is posted as a PDF on our Canvas course page.

Textbook Companion Website (Free Access – no code required)

The publisher offers a freely available companion web site with quizzes and other study aids:

http://www.cengage.com/cgi-wadsworth/course_products_wp.pl?fid=M20b&product_isbn_issn=9780495601494&discipline_number=24

Weekly reading assignments may include a textbook chapter and/or a journal article. Lecture slides, homework readings, homework assignments, links to articles and quizzes, etc., will all be available for you to download from our Canvas course page.

Grading

20% Homework: Reading Assignment w. Questions (All files posted and submitted on Canvas)

60% Exams (3 non-cumulative “midterms” worth 20% each)

20% Cumulative Final Exam

Requirements and Expectations

To do well in this course, you will need to engage in approximately 6 to 8 hours of time outside of class each week for reading and/or writing. For optimal performance, it is highly recommended that students attend class on a regular basis, complete all written homework assignments and exams as scheduled, and keep up with weekly readings. All students should complete the online course evaluations for their classes before the end of the semester.

Homework Readings and Question Sets (5 pts each)

The required reading assignment each week will typically involve a textbook chapter. The homework assignment may include reading a research article from a scientific journal and responding to a set of questions based on the reading. You must complete all of the questions in order to earn credit for each homework assignments. Late homework earns half credit. All written work should be typed, spelling-checked, written by you in your own words, and submitted in class on the due date. Homework files and articles are available as PDF's that you can download on Canvas (*check syllabus schedule for due dates*).

Exams

There are four exams. Three of the exams are non-cumulative midterms (20% each) and the final exam is cumulative (20%). All exams will be comprised primarily of multiple choice, fill-in responses,

matching, and short essay questions. Materials covered both in lecture, textbook chapters, and homework will be included in all exams. Please note that you are responsible for all assigned reading materials, whether or not they are discussed at length in class. Students should take advantage of the study guides and practice tests using the textbook's freely accessible companion web site for the 8th edition of the textbook (use the clickable link here and it is also located above: http://www.cengage.com/cgi-wadsworth/course_products_wp.pl?fid=M20b&product_isbn_issn=9780495601494&discipline_number=24).

Policy on Written Assignments

- All of your written work must be done by you and written in your own words using your own thoughts and ideas. Please remember to cite your sources of information in the references.
- Always remember to put your name on your homework before you submit online!
- Early work is always accepted without penalty. If you plan to be out or away when an assignment is due (i.e., for travel, sporting events or religious obligations), then please submit your work early to avoid being late.
- All late homework will receive half credit: Whether it is submitted one day late, one week late, or one month late, ALL late homework will earn half credit.
- Emailed assignments will not be accepted. Please submit online in Canvas.
- All work must be completed and submitted prior to the conclusion of our final class period of the semester (see your syllabus schedule). Extensions beyond that date will not be permitted.

Optional Extra Credit

Opportunities for extra credit will arise during the semester. You can choose to read a research article and respond to a set of questions. Stay tuned for further announcements and instructions.

General Attendance Policy

Your participation in the class is an integral part of a successful classroom format. Your presence in class throughout the semester is important for you to be successful and to perform well in the course. Therefore, regular attendance in weekly class sessions is strongly recommended. Attendance is required on all scheduled exam dates.

Policy on Exam Attendance

Exams are to be taken during the scheduled class period. Please make note of the midterms and final exam dates and speak to the Professor during the first week of class if you anticipate a problem. We cannot schedule alternative exam times for students who have heavy examination schedules, travel plans, etc. An unexcused absence on a known exam day will result in a grade of "F" (i.e., a "zero") on that exam. To be excused from an exam in the event of a medical or family emergency, it is critical to notify the Professor prior to the exam if that is possible. It is generally not acceptable to email the Professor immediately prior to the test, or during the test session, asking to be excused. As soon as you are able, you would need to present documentation certifying the legitimacy of your urgent absence from the exam period. The exam would need to be completed prior to returning and reviewing the graded exams during the next class period. Please note that make-up tests are not typically administered in this course, and there are limited situations in which a make-up exam will be offered, i.e., if and when a medical and academic clearance has been obtained. If such a scenario occurs, then the Professor will examine the situation and make a decision on how to proceed. Please note that the University strictly limits situations in which a grade of "Incomplete" can be granted.

As a college student, you are entirely responsible for being prepared for your exam periods and for communicating with your Instructor and Dean of Students if an emergency situation should arise.

If you do miss an exam, there are two steps involved to verify your legitimate, valid, urgent situation:

- (1) If it is a medical condition, please have your doctor write a letter explicitly stating that you were barred from taking the exam that day due to your medical condition.
- (2) Bring the physician's letter with you to the Dean, the Department Chairperson, or your Academic Advisor and have them write a memo on your behalf excusing you from the exam and asking me (the faculty member) to pardon you from the test period and grant you additional time on account of your emergency situation or urgent medical condition.

Classroom Courtesy Policy

Please note that we would like to have a classroom environment that is conducive to learning. As a courtesy to the instructor and fellow students, please remember to turn off cell phones and social networking devices during class period as these can cause distractions for you and other students sitting nearby. All text messaging, chatting and cell phone use should take place outside of class. Students who engage in distracting activity (i.e., texting, chatting) in class may be asked to leave. If you like to snack during class, students should try to avoid eating extremely odorous and /or noisy meals. We are a large group of people in a classroom with little ventilation. Noisy and smelly food items are most likely going to be highly distracting for the students around you.

Student Evaluations of Instruction

You are responsible for completing the Student Evaluations for this course and for all your courses with an enrollment of five or more students. The Instructors value your feedback and will use it to improve on teaching and planning in the future sections of the course. Please complete the online survey during the open period at the end of the semester.

Student Learning Center (Tutoring)

If you would like tutoring, or to be a tutor for your peers, contact the peer tutoring office on campus. Visit the website for locations and times:

<https://rlc.rutgers.edu/student-services/peer-tutoring>

Student Health Services and Psychological Counseling Center

To set up an appointment, visit the website:

<http://health.rutgers.edu/medical-counseling-services/appointments/>

Career Resource Center

Get helpful assistance building your resume, finding volunteer opportunities and summer internships. Visit the website for more information: <https://careers.rutgers.edu/>

Accommodations for Students with Disabilities

Our community values diversity and seeks to promote meaningful access to educational opportunities for all students, and the university is committed to providing access to all programs and curricula to all students. If you have a disability that requires an academic accommodation or the use of auxiliary aids and services in the classroom, and/or testing accommodations based on the impact of a disability, please let the instructor know within the first two weeks of classes. You should also contact the Office of Disability Services (ODS) as soon as possible. The ODS determines the specific needs of students with disabilities, and develops and implements programs and policies to meet those needs. Procedures for registering with ODS can be found online at:

<https://ods.rutgers.edu/students/registering-for-services>

The ODS will provide for your instructors an Accommodation Memo verifying the need for accommodations. Assessing and providing services requires advanced planning, and students are encouraged to request accommodations as close as possible to the beginning of the semester.

Scarlet Listeners

scarlet.listeners@gmail.com

Statement on Academic Integrity

The intellectual venture in which we are all engaged requires of faculty and students alike the highest level of personal and academic integrity. As members of an academic community, each one of us bears the responsibility to participate in scholarly discourse and research in a manner characterized by intellectual honesty and scholarly integrity. Scholarship, by its very nature, is an iterative process, with ideas and insights building one upon the other. Collaborative scholarship requires the study of other scholars' work, the free discussion of such work, and the explicit acknowledgement of those ideas in any work that informs our own. This exchange of ideas relies upon a mutual trust that sources, opinions, facts, and insights will be properly noted and carefully credited.

In practical terms, this means that, as students, you must be responsible for the full citations of others' ideas in all of your research papers and projects; you must be scrupulously honest when taking your examinations; you must always submit your own work and not that of another student, scholar, or internet agent. Any breach of this intellectual responsibility is a breach of faith with the rest of our academic community. It undermines our shared intellectual culture, and it cannot be tolerated. Students failing to meet these responsibilities should anticipate disciplinary action.

Academic honesty in writing assignments, examinations, and participation is expected of all students in this class. Academic dishonesty is one of the most serious offenses a student can commit in college. Not only does it violate the University's policy, it severely inhibits your opportunity to develop academically, professionally, and socially.

Students are expected to maintain the highest standards of honesty in their college work. Cheating, forgery, and plagiarism are serious offenses, and students found guilty of any form of academic dishonesty are subject to disciplinary action.

Academic dishonesty may be intentional or unintentional. Here are some examples:

- Plagiarism (copying word for word or even paraphrasing illegitimately, without proper citation or acknowledgment, from any other written, electronic, or online source)
- Cheating on examinations (regardless of whether you are on the providing or receiving side)
- Unauthorized collaboration or receiving unauthorized assistance on an assignment
- Submitting work for one course that has already been used for another course
- Unauthorized distribution of assignments and exams
- Forgery (alteration of college forms, documents, or records, or the signing of such forms or documents by someone other than the proper designee)
- Lying to an Instructor or College official
- Obtaining advance knowledge of exams or other assignments without permission

Plagiarism is the representation, intentional or unintentional, of someone else's words or ideas as one's own. Since words in print are the property of an author or publisher, plagiarizing is a form of larceny punishable by fine. When using another person's words in a paper, students must place them within quotation marks or clearly set them off in the text and give them appropriate footnoting. When students use only the ideas and change the words, they must clearly identify the source of the ideas. Plagiarism, whether intentional or unintentional, is a violation of the property rights of the author plagiarized and of the implied assurance by the students when they hand in work that the work is their own.

Cheating is defined as giving or obtaining information by improper means in meeting any academic requirements. Receiving credit for the same work in more than one course without knowledge or consent of the instructor(s) is a form of cheating and is a serious violation of academic integrity.

Faculty members are responsible for making the initial determination of the academic penalty to be imposed in cases of cheating, plagiarism, or forgery and for informing the department chair, the dean and the student in writing of the alleged violation and proposed penalty. The academic penalty may range, for instance, from a reprimand accompanied by guidance about how to avoid plagiarism in the future to failure for the course. The academic dean may request that the Dean of Students send a follow-up letter to the student indicating that they have also been notified of the academic integrity violation and that subsequent violations will lead to judicial action.

If a student has any question about what constitutes a violation of academic integrity, it is that student's responsibility to clarify the matter by conferring with the instructor and to seek out other resources available on the campus.

Schedule of Weekly Topics and Assignments

(preliminary schedule as of January 15 -- topics and order may be subject to minor changes)

Module	Date	Day	Schedule of Weekly Lecture Topics	Reading
-	20-Jan	M	No Class -- in observance of Martin Luther King, Jr. Day	-
1	23-Jan	Th	Course Introduction & Overview	Ch. 1
1	27-Jan	M	Anatomy of Receptors, Neurons and the Brain	Ch. 2
2	30-Jan	Th	Psychophysics & Retinal Physiology: Journey of Light in the Visual System	Ch. 3
2	3-Feb	M	The Retinocortical Pathway & Visual Cortex	Ch. 4
3	6-Feb	Th	Color Vision: Theory of Trichromacy, and Color Opponency	Ch. 9
3	10-Feb	M	Color Blindness, Synaesthesia, <i>Mystery of the Senses: Vision</i>	-
4	13-Feb	Th	Object Recognition, Face Perception and Visual Illusions Homework 1 Due	Ch. 5
4	17-Feb	M	Object Recognition, Face Perception and Visual Illusions	Ch. 5
4	20-Feb	Th	Object Recognition	Ch. 5
Exam	24-Feb	M	EXAM 1	EXAM 1
5	27-Feb	Th	Visual Attention	Ch. 6
5	2-Mar	M	Visual Attention	Ch. 6
6	5-Mar	Th	Perceptual Development	Ch. 16
6	9-Mar	M	Perceptual Development	-
7	12-Mar	Th	Depth, Size and Shape Perception	Ch. 10
<i>Break</i>	<i>March 14-22</i>	-	<i>Spring Recess -- No classes</i>	-
7	23-Mar	M	Depth, Size and Shape Perception	Ch. 10
8	26-Mar	Th	Motion and Action	Ch. 7-8
8	30-Mar	M	Motion and Action	Ch. 7-8
Exam	2-Apr	Th	EXAM 2	EXAM 2
9	6-Apr	M	The Auditory System: Structures and Functions	Ch. 11
9	9-Apr	Th	Sound Localization; Speech and Hearing; Hearing Loss Homework 2 Due	Ch. 12 & 13
10	13-Apr	M	Chemical Senses (Gustation and Olfaction), Video: <i>Mystery of the Senses: Taste & Smell</i>	Ch. 15 & 16
10	16-Apr	Th	Chemical Senses (Gustation and Olfaction), Video: <i>Taste & Smell</i> Homework 3 Due	Ch. 15 & 16
11	20-Apr	M	Cutaneous Senses (Touch and Pain)	Ch. 14
11	23-Apr	Th	Cutaneous Senses (Touch and Pain)	Ch. 14
Exam	27-Apr	M	EXAM 3	EXAM 3
-	30-Apr	Th	Course Review (Second to Last Day of Class)	-
	4-May	M	Course Review (Last Day of Class)	
Exam	11-May	M	CUMULATIVE FINAL EXAM (Monday, May 11 @ 8-11 am)	FINAL EXAM