

PSYCH 333: SENSORY AND PERCEPTUAL PROCESSES
COURSE SYLLABUS: AUTUMN QUARTER 2009.

Class meets Monday, Tuesday, Wednesday and Thursday from 11:30-12:20 in MEB 238.

All Quiz Sections meet on Fridays. AA meets from 9:30-10:20 (SAV157), AB from 10:30 to 11:20 (SAV136); AC from 11:30-12:20 (SAV158), and AD from 12:30-1:20 (SAV162).

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Biographical Sketches:

Ellen Covey, PhD, Duke University (1980), Professor, Department of Psychology, joined the faculty at the University of Washington in 1996, having previously served on the faculty of the Department of Neurobiology at Duke University Medical Center. Her research is on the structure and function of the auditory system.

Kate Tabor, BS, University of Iowa (2001). Currently a 5th-year student in the Neurobiology and Behavior graduate program, working with Edwin Rubel.

Jon Howe, BS, University of Washington (2005). Currently a 5th-year graduate student in Behavioral Neuroscience, working with Jaime Diaz.

Course Objectives: The objective of this survey course is to provide students with a basic understanding of how animals and humans obtain and process information about their environment. This topic will be explored from several different viewpoints including the structure and function of sensory systems, theories of information processing, the relation of behavior and human performance to stimulus attributes and underlying neural mechanisms, and the ways in which knowledge about sensory processing can be applied in everyday life.

Prerequisites: Must be currently enrolled as Psychology Major.

Course Structure: The course will consist of four 50-minute lectures per week plus one 50-minute quiz section (up to 25 students per section).

Meeting Format: Lectures will cover basic information pertaining to sensory systems. Quiz sections will provide a forum for review of class materials, workshops, discussion, hands-on demonstrations to illustrate selected concepts, and a venue for student presentations. *Attendance at quiz sections and completion of oral presentations and quiz section activities and assignments is a required part of the course, and constitutes part of your grade.*

Required Material: A comprehensive course pack that summarizes all material covered in the class is available for downloading on the Psych 333 website.

Recommended Textbook: Wolfe, J.M. et al. (2006) *Sensation and Perception*, Sinauer. This textbook is not required, but for those students who want a reference book it is available new or used at the UW bookstore, as well as from online sources. One copy of this text will be on reserve at Odegaard Library and may be checked out for a 24-hour period.

Grades: Points will be distributed as follows. The final point total will be converted to a percentage, and grades on the 4.0 scale will be assigned according to the table at the end of the syllabus. Grades will not be curved.

<i>In-class exams (3 x 100 points each)</i>	300 points
<i>Weekly in-class quizzes or other written work (10 x 10 points each)</i>	100
<i>Take-home writing assignments (2x 75 points each)</i>	150
<i>Oral presentation</i>	100
<i>Quiz section participation</i>	50
<i>Subtotal</i>	700 points
<i>Final exam (Exam 4, cumulative)</i>	100 points
<i>Grand total</i>	800 points

Exams: There will be 3 major in-class exams, and a final exam to be held on the officially scheduled date during finals week. Exams will potentially include any and all material covered in the course pack, lectures, quiz sections, and handouts. Exam questions will be a combination of multiple choice, true/false, short-answer, and essay format. Students must take each quiz and exam on the scheduled date and at the scheduled time, or the grade assigned will be zero. The only exception to this rule is in the case of a documented emergency or by prior arrangement, in which case the student will take a make-up exam that is different in format and content from the in-class exam. Make-up exams will generally be all essay questions or oral exams. The final will be cumulative, multiple-choice format. Any student whose average score on the first 3 exams is 90% or above has the option of not taking the final.

In-Class Work: There will be 10 unannounced, short in-class quizzes or short writing assignments, which may be given during lecture or during quiz section. The purpose of the quizzes and in-class writing is to assess mastery of the information, concepts, and skills covered in class and identify areas that need additional emphasis, explanation or clarification.

Writing Assignments. There will be 2 writing assignments designed to allow students to explore in some depth a topic of particular personal interest. Each assignment will be due two weeks from the time it is handed out, as specified in the schedule. Each student is expected to work completely independently in performing research, formulating arguments, and composing essays and other writing. Writing assignments must be turned in to the CollectIt drop box by the deadline on the day they are due. Writing assignments turned in late will be subject to a deduction of 5 points per day. After 5 days, the grade assigned will be zero. Students whose grades on the writing assignments fall below a specific threshold will have the opportunity to

rewrite the paper, with the final grade on the assignment being the average of the first paper and the revised version.

Cheating and Plagiarism. *It is strictly forbidden to copy material from any existing source including, but not limited to, the course-pack, textbooks, journal articles and other printed material, notes, compositions, or exam materials of other students, websites, paper-writing services, etc. Such copying, whether it be on an exam, quiz, writing assignment, or paper, constitutes plagiarism! Any student suspected of plagiarism or cheating on an assignment or exam will not receive a grade on that assignment or exam and will receive a grade of X for the course until the resulting academic misconduct charge is resolved.*

Oral Presentation. Each student is expected to prepare and deliver a short oral presentation that is part of a group project. The oral presentations will be given in quiz section. To facilitate scheduling and preparation, students are expected to have joined a group, signed up for a date, and identified a topic by the end of the second quiz section meeting.

Guest speakers: During the quarter, one or more guest speakers may lecture on a topic related to course content and/or their field(s) of research and area(s) of expertise. Guest lecturers will generally be announced at least one class period ahead of time.

Web Site: There is a web site for the class at: <http://courses.washington.edu/psych333/>
The web site includes basic information about the class, which will be updated on a regular basis. During the quarter, you will be able to use the web site to check your grades, review class notes, download material, and link to other related web sites. Everyone is encouraged to contribute material for possible use on the web site. Examples of appropriate material include interesting links, news items, demonstrations, or articles related to topics covered in class or otherwise related to sensory systems and perception.

E-mail Policy: Students are encouraged to ask questions in class, but may also use e-mail to ask questions about course content and clarify points that they did not understand. E-mails will usually be answered within 24 hours, but there is no guarantee that they will be answered after 6 PM on weekdays or at any time on weekends or holidays. The instructor may opt to forward questions of general interest to the class list, along with an answer. In this case, any and all information identifying the source of the question will be removed. *Written assignments must be submitted to the drop box by the deadline, in the prescribed format as specified in each assignment.*

Technology Policy. Tape recorders or similar devices may be used to record lectures, provided permission has been requested and granted. Laptops, iPods, text-messaging devices, cell phones, and other similar electronic devices are not to be used in the classroom.

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Tentative Schedule

Weeks and dates Topic or event Course Pack Reading

UNIT 1: THE BASICS

Week 1 Sept. 30-October 2 Introduction to Sensory Systems

Wednesday	Introduction	Chapter 1
Thursday	History, and the nature of sensation and perception;	Chapter 2-6
Friday	Workshop: Choosing your research topic; <i>Receive Written Assignment 1</i>	

Week 2 October 5-9 Principles of Psychophysics

Monday	Approaches to studying sensory systems and perception	Chapter 7
Tuesday	General principles of classical psychophysics; sensory thresholds	
Wednesday	Discrimination, magnitude estimation, scaling methods	
Thursday	Applications of psychophysics	
Friday	Psychophysics Demonstration: Measuring absolute threshold and JND	

UNIT 2: PRINCIPLES OF SENSORY PROCESSING

Week 3 October 12-16 The Chemical Senses and Sensory Transduction

Monday	The chemical senses; Sensory transduction	Chapter 8-9
Tuesday	The gustatory system	
Wednesday	The olfactory system	
Thursday	The olfactory system	
Friday	Review for exam 1; <i>Written Assignment 1 due; Receive Written Assignment 2</i>	

Week 4 Oct. 19-23 The Somatosensory System and Topographic Brain Maps

Monday	EXAM 1	
Tuesday	Introduction to the somatosensory system	Chapter 10-11
Wednesday	Somatosensory system structure and function	
Thursday	Receptive fields; topographic maps in the somatosensory system	
Friday	Demonstration: 2-point discrimination in the somatosensory system;	

Week 5 Oct. 26-30 Somatosensory system; Optics and the eye

Monday	Pain	
Tuesday	Brain reorganization and plasticity	
Wednesday	Optics and the eye	Chapter 12-13
Thursday	The retina	
Friday	Workshop: Preparing your presentation; <i>Written Assignment 2 due</i>	

Week 6 November 2-6 The Visual System

Monday	The retina and color vision	Chapter 14-15
Tuesday	Retinal information processing	
Wednesday	The central visual pathways	
Thursday	The central visual pathways	
Friday	Review for exam	

Week 7 November 9-13 Vision and Internal Views of the World

Monday	EXAM 2	
Tuesday	Form and object perception	Chapter 16-18
Wednesday	HOLIDAY - No Class	
Thursday	Depth perception	
Friday	4 group presentations	

Week 8 November 16-20 Topics in Vision; The Peripheral Auditory System

Monday	Motion Perception;	
Tuesday	Special topic or catch-up	
Wednesday	Acoustics and the ear	Chapter 19-20
Thursday	The cochlea and tonotopic maps	
Friday	4 group presentations; <i>All written assignment rewrites due</i>	

Week 9 November 23-27 The Auditory System

Monday	Transduction and auditory nerve	
Tuesday	Structure and function of the central auditory system	
Wednesday	Special topic or catch-up	
Thursday	HOLIDAY: No class	
Friday	HOLIDAY: No class	

Week 10 Nov. 30-December 4 The Auditory System

Monday	Sound localization and temporal pattern analysis	Chapter 21-22
Tuesday	Sound localization and temporal pattern analysis;	
Wednesday	Auditory scene analysis; Music, speech and auditory perception	
Thursday	Special topic or catch-up	
Friday	Review for Exam	

Week 11 Dec. 7-11 Auditory System/ Bonus Week

Monday	EXAM 3	
Tuesday	Integration across the senses	
Wednesday	Applying perceptual principles	
Thursday	Special Topic or catch-up	
Friday	Review for final	

FINAL EXAM (EXAM 4): Wednesday, Dec. 16, 2:30-4:20 p.m, [Room TBA]

GRADE CALCULATION TABLE

points		percent	
760-800	4.0	95-100	
752-759	3.9	94	
744-751	3.8	93	
736-743	3.7	92	
728-742	3.6	91	
720-727	3.5	90	A
712-719	3.4	89	
704-711	3.3	88	
696-703	3.2	87	
688-695	3.1	86	
680-687	3.0	85	
672-679	2.9	84	
664-671	2.8	83	
656-663	2.7	82	
648-655	2.6	81	
640-647	2.5	80	B
632-639	2.4	79	
624-631	2.3	78	
616-623	2.2	77	
608-615	2.1	76	
600-607	2.0	75	
592-599	1.9	74	
584-591	1.8	73	
576-583	1.7	72	
568-575	1.6	71	
560-567	1.5	70	C
552-559	1.4	69	
544-551	1.3	68	
536-543	1.2	67	
528-535	1.1	66	
520-527	1.0	65	
512-519	0.9	64	
504-511	0.8	63	
496-503	0.7	62	D
< 496	0.0	0-61	F