

Psychology 406: Psychology of Perception, Spring 2016

Time and Location

2:30-3:45 Monday/Wednesday, Room 107 Brogden Hall

	Instructor	Teaching Assistant
	Bas Rokers	Xiaoming (Mina) Ma
<i>Office</i>	Room 420 Psychology	Room 638 Psychology
<i>Office Hours</i>	10-11 am Monday and by appt.	1-2 pm Wednesday and by appt.
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<i>Phone</i>	(608) 262-8992	

*With the exception of time-sensitive emergencies, email is the preferred way to contact us.

Course Description

This course will provide an introduction to the study of sensation and perception. Perception is the active process by which organisms extract information from their surroundings. Casually, we tend to think of this as an "automatic" process, e.g.: "You just look at something and you can see what it is, where it is, how it's moving, etc." However, what seems "easy" to us is in fact the result of an exquisitely sensitive sensory system working in concert with powerful computational machinery housed in the brain, spinal cord, and peripheral nervous system. Our perceptual faculties have been honed by evolution over many millions of years. A central focus of this course will be to examine how these systems work and why they are so impressive. Though we tend not to realize it, we are all perceptual virtuosos; the average 5-year-old can easily out-perform the world's most powerful supercomputers at recognizing faces or comprehending speech.

This course will focus on the insights into sensory perception provided by a wide variety of disciplines (philosophy, physics, chemistry, biology, mathematics, computer science, statistics, neuroscience, and psychology), beginning with a study of the physical substrates for perceptual information (e.g., light, sound waves, temperature, odors), and proceeding to the biological and psychological processes by which such information is converted to "percepts" in the brain.

Learning Objectives

The objective of this course is to provide a thorough introduction to the biological and psychological study of the senses. At the end of the course, the students should be able to

describe the physical media that carry sensory information, the sensory organs that transduce this information, and the processing of this information that occurs along the neural pathways.

Textbook

The following textbook is required for the course. It is available at the University Bookstore, amazon.com, or sinauer.com (Hardcover: \$ 132.95, rent: \$ 34.84):

- Jeremy M. Wolfe *et al.*, (2014), Sensation & Perception, **Fourth Edition**, Sinauer Assoc.

Assigned readings from the text are noted in the course schedule. In order to gain the most from attending lecture, be sure to read the assigned readings *before* coming to class.

In addition, the following workbook is suggested:

- Marian C. Diamond & Arnold B. Scheibel. The Human Brain Coloring Book. HarperCollins Publishers

If you have not previously taken a neuroanatomy course, this workbook will help you find your bearings around the human nervous system.

Course Website(s)

- Learn@UW: <https://learnuw.wisc.edu>

The Learn@UW class site will host the most recent version of the syllabus, slides from the lectures, and information on grades.

- Textbook companion website: <http://sites.sinauer.com/wolfe4e>

This website is a great companion resource to the textbook. For each chapter, it provides discussions, activities, demonstrations of visual illusions, topic-specific essays, chapter summaries, key terms, and study questions.

Evaluation

Three non-cumulative exams, each devoted to a section of the course, and one cumulative/comprehensive final will be given. Material from lectures *and* from the assigned readings will be covered in the exams and final. These exams are multiple choice. Final grades will be based on the highest three of the four grades. Thus, if you are happy with your grade after the first three exams, there is no need to take the final.

Be sure to bring your UW Identification Card with you to the exams and be prepared to show this card. Note that all exams are closed-book, closed-notes. Hats with a brim, cell phones, PDAs, laptops, *etc.* are NOT PERMITTED in the classroom during exams. The only thing you should bring to an exam are #2 pencils. If you bring notes for last-minute studying, they must be

packed away and completely out of sight before the exam begins. We will bring the scantron forms.

Regular Exams

Early, late or make-up exams will not be given without an extremely compelling excuse that is fully documented in writing by a parent or doctor. Per University policy, you have two weeks from the first day of class to make arrangements with the instructor about make-up exams due to a predictable conflict (*e.g.*, if you know that you'll be missing class on a particular day due to a trip, a religious observance, *etc.*). In most cases, we will end up agreeing that the (otherwise optional) final should serve as the make-up exam. Make-up exams may differ in structure from regular exams (*e.g.*, make-up exams may contain short-answer or essay-style questions).

If you want to do well on these exams you will have to work hard in this course. It will require significant investments of time and effort. You will need to know all of the material presented in the textbook (the assigned readings), and all of the material presented in the lectures. A cursory review of this material a few days before the exam will most likely not suffice for a passing grade. This is a science course and the material is difficult. Please do not expect easy exams.

Optional - Final Exam

The final exam is optional, not required. If you take all three regular exams and are content with your grade (based upon these three exams), then there is no need to take the final exam; your semester is over! If, however, you are not content with your grade and you would like to attempt to raise it, you will be allowed the opportunity to take a comprehensive final examination (covering all of the readings and the lectures). This exam is essentially a long version of the regular exams, but is comprehensive.

For many students, this is a golden opportunity to demonstrate knowledge they have acquired. You will be given the full 2.5 hours to complete the exam, if you feel you need this time. If you should elect to take this optional final examination, then your final grade will be based upon the average of the highest three exam scores. In other words, if you have taken all three regular exams and the final, then the low grade will be dropped. The place for this examination is determined by the University and will be posted by the University. Note that this exam cannot be administered early, or late, for any reason.

Final Grades

The final grades will be normalized (*i.e.*, "curved") to the highest student's grade for each test.

Final letter grade cutoffs are as follows: A: 93-100%; AB: 88-92%; B: 83-87%; BC: 78-82%; C: 71-77%; D: 65-70%; F < 65%. The total score will be rounded to the nearest decimal, e.g., 89.5% = 90%, 89.4% = 89%. No hand adjustment of these thresholds will be made once the curve is set.

Exam review and grading disputes

The exams will be available for review in the TA's office during office hours. If you have a question about the grading or an exam item, please consult with the TA and then contact Dr. Rokers if necessary. Credit will be given for exam items that are clearly wrong or misleading, but students bear the responsibility of understanding concepts and vocabulary as discussed in the text and in class.

Other Information

Class Participation

Learning (like perception itself) is an active process. Students are strongly encouraged to attend lectures and to ask questions. The goal of this course is not so much to convey a set of facts as to introduce a discipline and its preferred methods of inquiry. One of the goals of the lectures will be to interrogate the facts and ideas presented in the textbook.

Phones

Please silence your phone before class and then leave it in your pocket, backpack, or purse for the duration of the class period.

General courtesy

Please do not talk amongst yourselves during the class as this is distracting to both the instructor and to your fellow classmates. Even more distracting are students who enter the lecture late or leave early. If you must leave the class early, please sit near the back of the hall and exit discretely.

UW Code of Conduct

The UW Student Code of Conduct, including an explanation of what constitutes plagiarism, can be found at <http://students.wisc.edu/saja/misconduct/UWS14.html>. Please do not plagiarize, it makes us very sad.

Special Needs

The McBurney Disability Resource Center provides a variety of services for those who might need special accommodations. Services can include counseling, testing, and recommending accommodations. Please let us know 2 weeks before each exam if you need extra accommodations, as documented by a McBurney Visa. Contact them at 1305 Linden Drive, 263-2741, or <http://www.mcburney.wisc.edu/>. In addition, the TRIO Student Support Services provides support for low-income families, first generation college students, and students with disabilities. Contact them at 16 Ingraham Hall, 1155 Observatory Drive, 265-5106, or <http://www.education.wisc.edu/trio/>.

Tentative Course schedule

In the event that the syllabus changes (*e.g.*, change of topics covered for a given day), an announcement will be made at the beginning of lecture, and a revised syllabus will be made available later that day.

<u>Week</u>	<u>Lecture Topic</u>	<u>Reading</u>	<u>Date</u>
1	Introduction / Overview	Chap. 1	1/20
2	Basic Methods	Chap. 1	1/25
	Light, Optics, & Early Vision	Chap. 2	
3	Retina & Receptive Fields	Chap. 3	2/1
	Visual Cortex & Spatial Vision (Fulvio)	Chap. 3	
4	Mid-level vision	Chap. 4	2/8
	Object Recognition	Chap. 4	
5	Review Session		2/15
	Exam 1 (Wed, 2/17)		
6	Color Vision I	Chap. 5	2/22
	Color Vision II	Chap. 5	
7	Space & Depth Perception (Rosenberg)	Chap. 6	2/29
	Depth II & Bayesian Perception	Chap. 6	
8	Motion Perception	Chap. 8	3/7
	Attention & Scene Perception	Chap. 7	
9	Review Session		3/14
	Exam 2 (Wed, 3/16)		
10	--- Spring Break ---		3/21
	--- Spring Break ---		

11	Intro to Sound & Hearing: Psychoacoustics	Chap. 9	3/28
	Perceptual learning (Green)	Chap. 9	
12	Auditory System: Localization	Chap. 10	4/4
	Auditory System: Scene Analysis	Chap. 10	
13	Music Perception (Grabois)	Chap. 11	4/11
	Speech Perception	Chap. 11	
14	Somatosensation I	Chap. 13	4/18
	Somatosensation II	Chap. 13	
15	Review Session		4/25
	Exam 3. (Wed, 4/27)		
16	Position Sense & the Vestibular System	Chap. 12	5/2
	Olfaction and Taste	Chap. 14, 15	
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	Review Session		time/location TBA
	Final Exam (cumulative) (7:25-9:55 pm, location TBA)		Sunday 5/8

Where to take complaints about a Teaching Assistant or Course Instructor:

Occasionally, a student may have a complaint about a TA or course instructor. If that happens, you should feel free to discuss the matter directly with the TA or instructor. If the complaint is about the TA and you do not feel comfortable discussing it with him or her, you should discuss it with the course instructor. If you do not want to approach the instructor, make an appointment to speak to the Department Chair, Professor Patricia Devine, by emailing: chair@psych.wisc.edu. If your complaint has to do with sexual harassment, you may also take your complaint to Vicky Lenzlinger, Undergraduate Program Coordinator, phone 262-0512 or email her at vlenzlinger@psych.wisc.edu. Her office is located on the second floor of the Psychology building, room 222.

If you believe the TA or course instructor has discriminated against you because of your religion, race, gender, sexual orientation, or ethnic background, you also may take your complaint to the Office of Equity and Diversity, room 179-A Bascom Hall, or go to: <http://www.oed.wisc.edu/>

If your TA or course instructor is not a native English speaker and you have difficulty understanding his or her speech, ask her/him to repeat sentences that you do not understand. If you have serious or prolonged difficulty understanding, discuss the problem with the course instructor. But remember that this is a multicultural institution and that the diversity can add

substantially to your education. Some patience with unfamiliar accents may reward you with a better understanding of the world.