

Syllabus
Perception (PSYCH 503)
Professor: Adam S. Greenberg, PhD

This class is conducted *online between January 22, 2019 and May 9, 2019*. Office hours will be held *by appointment only* during this period in *Garland Hall 319*. Please send appointment requests via e-mail to agreenb@uwm.edu; alternatively, you can reach me by phone at (414) 229-1106.

Course Objectives: This course will provide students with a deep understanding of how sensory perception gives rise to our experiences. We will explore both the psychological constructs and neuroscientific mechanisms involved in perceiving information from each of the senses. The course incorporates the newest research in the field, including results from neuroanatomy, brain imaging, and neuropsychology. The course begins by studying vision, the sense about which we know most. A close look at light, color, depth, and motion will be accompanied by a discussion of object perception. We'll then move to attention, the process by which sensory information is processed (or filtered) by the brain into awareness. This is followed by audition, in which we'll study how sound is transformed into neural signals and high-level auditory objects (such as language and music). We will end the semester covering the body senses (tactile, proprioception, etc.) followed by the chemical senses (odor and taste). Upon completion of this course, students should understand the fundamental interplay between the sense organs and the central nervous system. In particular, we focus on the critical role of the neocortex in perceiving the world around us.

Required Reading: The textbook for this course can be purchased from the UWM Virtual Bookstore (<http://uwm.ecampus.com>) and is on reserve at the UWM Library:

- Yantis, S. (2014). *Sensation and Perception*. Worth Publishers, New York, NY.

Time Commitment: The suggested minimum time commitment recommended for successful completion of this course is outlined below. Please keep in mind that additional time may be required for mastery of complex concepts that are discussed in class and described in the text book, and plan for additional study time accordingly.

- Lectures/ Exams: 2.5 hours/week Total: approximately 36 hours
- Reading (Text Book): 4 hours/week Total: minimum 58 hours
- Online Quizzes/Forum: 1 hour/week Total: minimum 14.5 hours
- Review/Exam Prep: 2 hours/week Total: minimum 29 hours

In sum, you should expect to dedicate **at least 9 hours per week** to this course (137.5 hours across the entire semester). Keep in mind that this is a minimum time commitment; more time might be required to prepare effectively for exams and to complete course assignments. It is my suggestion that you read the assigned material in the textbook before viewing the lecture, and that you review this material and any course notes after viewing the lecture, as needed. Prior to exams you should plan to spend additional time reviewing all of the relevant material.

Perception (PSYCH 503), Spring 2019 – online

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Wk	Dates	Lec#	Topic	Reading	Online Quizzes
1	1/22-1/25	1	Introduction, Foundations		
		2	Neurons, Brain function	Ch 1 (1/25)	
2	1/28-2/1	3	Neuroimaging		
		4	Psychophysics		
3	2/4-2/8	5	Signal Detection Theory	Ch 2 (2/4)	
		6	Light, Eye, Photoreceptors		Quiz 1->Ch1&2 (2/8)
4	2/11-2/15	7	RGCs, LGN, Visual Cortex	Ch 3 (2/11)	
		8	Cortex, Grouping, Objects	Ch 4 (2/13)	Quiz 2->Ch 3&4 (2/15)
5	2/18-2/22	EXAM 1 (lectures 1-8)		Ch 1-4 (2/18)	
		9	Color I: Trichromacy	Ch 5 (2/22)	
6	2/25-3/1	10	Color II		
		11	Depth I: Monocular Cues	Ch 6 (2/28)	
7	3/4-3/8	12	Depth II: Stereopsis		Quiz 3->Ch 5&6 (3/6)
		13	Motion I: Percep Organization	Ch 7 (3/8)	
8	3/11-3/15	14	Motion II: Eye Movements		
		15	Attention I	Ch 8 (3/15)	
	3/18-3/22	UWM SPRING BREAK			
9	3/25-3/29	16	Attention II		Quiz 4->Ch 7&8 (3/27)
		EXAM 2 (lectures 9-16)		Ch 5-8 (3/29)	
10	4/1-4/5	17	Sound	Ch 9 (4/1)	
		18	The Ear, Frequency		
11	4/8-4/12	19	Auditory Anatomy, Amplitude		
		20	Localization, Auditory Cortex	Ch 10 (4/12)	
12	4/15-4/19	21	ASA cues, Speech	Ch 11 (4/15)	
13	4/22-4/26	22	Music		Quiz 5->Ch 9,10,11 (4/24)
		23	Tactile, Proprioception, Pain	Ch 12 (4/26)	
14	4/29-5/3	24	Odor & Taste	Ch 13 (4/29)	Quiz 6->Ch 12&13 (5/3)
15	5/6-5/9	EXAM 3 (lectures 17-24)		Ch 9-13 (5/9)	
		<u>FINAL EXAM (cumulative) Ch 1-13 (5/16)</u>			

EXAMINATIONS & COURSEWORK

Exams (100 points each): Four exams will be administered over the course of the semester – 3 midterm exams, and a final exam; the final will be cumulative. Each midterm exam will contain multiple choice questions (worth 80 possible points total), and short answer questions (worth 20 points total). Midterm exams will be available from 6am to 11:59pm on the dates shown above. They will be limited to 75 minutes. The final exam will be factored into the final grade as 2 midterm exams. The final exam will be available from 6am to 11:59pm on the date shown above. It will be limited to 120 minutes. Only the top 3 (of 5) exam grades will count toward your final grade. Therefore, **the lowest 2 exam grades will be dropped**. The three test grades will count for 75% of your total grade.

Online Quizzes (10 points each): Short quizzes covering information in the specified chapters will be posted on the course D2L site (see details below). Quizzes are open now, but will only be available until 11:59pm on the dates listed above. Quizzes will be limited to 60 minutes. Each quiz will be worth 10 points. There are 6 quizzes throughout the semester for a total of 60 points. These online quizzes count for 15% of your total grade.

Forum Questions (5 points each): The course D2L website (see details below) contains a Discussion List for the course, titled “Perception Discussion Forum Questions”. A new topic appears for each of the 13 book chapters we’ll cover in the class. Students must post 5 detailed, thoughtful questions on something they read for class, throughout the semester. Responses to other students’ questions will also count for this requirement (provided the response is accurate and thoughtful). Each question/response posted counts 5 points, for a maximum of 25 points throughout the semester. Credit will only be given for questions/responses posted under the appropriate chapter/lecture topic on the forum. NOTE: Discussion boards for each chapter close at 8am on the date these chapters are listed in the lecture schedule; you must submit your post to the discussion board before it closes. These forum posts count for 10% of your total grade.

Extra Credit for Select Neuroscience Talk Attendance: We are lucky to be at a research university with a very active Neuroscience program that hosts numerous external speakers from around the world each semester. Occasionally (at the discretion of Prof Greenberg), a scientist whose work is directly relevant to Perception will be giving a lecture during the semester. Students can earn additional extra credit points by attending these lectures. Please watch the D2L News items for details of upcoming lectures that qualify for this extra credit opportunity. Only lectures announced in the D2L News qualify as an extra credit opportunity.

Extra Credit for Research Participation: Students may earn up to 5 percentage points based on research participation to be added to their grade at the end of the semester. One percentage point will be awarded for each hour of participation (NOTE:

participation in a 30 minute experiment = 0.5% grade extra credit). Thus, 5 hours of participation will translate into 5 percentage points that will be included in your final grade. For example, if your final calculated grade is 89%, 5 hours of participation would raise this score to 94%.

Opportunities for research participation can be found on the Psychology Department SONA website: http://www4.uwm.edu/lets/psychology/Sona_research_participation/. The last day for participation in order to get extra credit for this course is **Thursday, May 9th**, at 5 PM. If you participated in previous semesters you may already have an account. If your account no longer exists or you must establish a new account, follow these steps:

1. Log onto the SONA website: <http://uwmilwaukee.sona-systems.com/>
2. On the right side, click on "Request Account".
3. Enter all of the requested information – MAKE SURE YOUR EMAIL ADDRESS IS CORRECT. Your username should be your ePanther email address, not your student ID number.
4. When you receive your password via email, log into your account and change your password.

The first time you log in you will be asked to do a brief prescreening survey (approximately 25 questions). Researchers may invite you to participate in their studies based on your responses to the prescreen questions. You may choose whether or not you wish to participate in these studies.

Once you have logged on to the website you will see a list of studies. If a study interests you and "Time slots available" is stated to the left of the study title, you can view available sessions and sign up for those sessions by clicking on the study title and then on View Time Slots. You will receive a reminder email prior to your session.

It is very important to remember that when you sign up for a session you are making a commitment to show up for that appointment. If you need to cancel you may do so via the SONA website prior to the session. Studies vary in how much advance notice they need of cancellation (most are 24 hours) – please take note of this when you sign up. **If you do not show up for a session you will lose the opportunity to earn one percent of extra credit. If you fail to show for a second session you will again lose the opportunity to earn a second percentage of extra credit and you will no longer have the opportunity to sign up for research studies to earn extra credit for any of your course(s).** You can make up the extra credit points you lost by completing an alternative extra credit option (see Alternative to Research Participation study on Sona). The alternative option involves reading an empirical paper related to the course for which you wish to receive extra credit and writing a summary of the article. If you have questions please contact the SONA Subject Pool Coordinator, Dr. Christine Larson, larsoncl@uwm.edu.

D2L Course Website: All of the students who are enrolled in the course will have access to course materials on the D2L course website. The syllabus has been posted

and **lectures will be made available at least one week in advance.** Other supplementary materials will also be posted as they become available. If any student has trouble accessing the D2L course site, they should **immediately report this to the course instructor by email, and contact the UWM Learning Technology Center for assistance.** No late forum posts/quiz entries will be allowed if the instructor has not been notified of D2L issues by the student.

GRADING POLICIES

Study Guides: This is an upper-level course for Juniors, Seniors, and Graduate Students. Therefore, no study guide materials are provided, as you might have been accustomed to in lower-level undergraduate courses. However, the formation of study groups among currently-enrolled students is strongly encouraged. Importantly, this does not encourage cheating in any way. **Collaboration between students is strictly for the purposes of study, and is forbidden during any quizzes, exams, or any other activity upon which you will be graded.**

Late Policy: All assignments (forum posts and online quizzes) are due on or before the dates/times indicated in the timeline above. All assignments are expected to be completed on time, and late work will generally be refused.

Make-up Policy: Make-up exams will only be administered when extreme circumstances preclude exam completion on the day for which an exam has been scheduled. These circumstances include significant illness (with documentation from a physician), an extremely serious family problem (e.g. a death in the family), or a conflict due to religious holiday or military service. If you have a scheduled conflict, you must contact me **within the first two weeks of the semester.** If a make-up exam has been scheduled and you miss the appointment, you will be assigned a grade of 0 points. Depending on the circumstances, you may be required to take an alternate exam, which may include short-answer and essay questions. All exams (including make-up exams) must be completed in 1 hour and 15 minutes. In most cases, make-up exams will not be necessary since students may drop 2 midterms or the final exam (see policy on dropped exams above).

Attendance Policy: As this is an online course, therefore attendance is irrelevant. The dates on which topics are listed in the syllabus may be subject to change. Any changes in the timeline provided above will be announced on D2L and/or an e-mail will be sent to all registered class members.

Points Summary: Maximum available grade points for exams and course assignments are provided below.

Requirement	Maximum Grade Points	% of Final Grade
Top 3 exam grades	300 (100 each)	75 (25 each)
Online Quizzes	60	15
D2L Forum Questions	25	10

Grading Scale: An example grading scale for the course is provided below.

<u>Percent</u>	<u>Grade</u>	<u>Percent</u>	<u>Grade</u>
93-100%	A	73-76%	C
90-92%	A-	70-72%	C-
87-89%	B+	67-69%	D+
83-86%	B	63-66%	D
80-82%	B-	60-62%	D-
77-79%	C+	<60%	F

UNIVERSITY POLICIES

University policies on participation of students with disabilities, accommodation for religious observances, compliant procedures, grade appeal procedures, and other standing policies (e.g., sexual harassment, incompletes) can be found on the following website: http://www4.uwm.edu/secu/news_events/upload/Syllabus-Links.pdf

Special Arrangements: If you have a documented disability and need special accommodations in order to meet any of the course requirements, please contact the course instructor as soon as possible (preferably during the first week of the semester). You must provide your VISA form, which you can obtain at the Accessibility Resource Center (Mitchell 112, <http://www.uwm.edu/arc/>, phone: 414-229-6287).

Academic Misconduct: In this course, we will strictly adhere to UWM's policy regarding academic misconduct. UWM does not tolerate academic misconduct, in any form. Cheating and plagiarism are examples of academic misconduct. Here is the university's definition: "an act in which a student seeks to claim credit for the work or efforts of another without authorization or citation, uses unauthorized materials or fabricated data in any academic exercise, forges or falsifies academic documents or records, intentionally impedes or damages the academic work of others, engages in conduct aimed at making false representation of a student's academic performance, or assists other students in any of these acts." Information about the procedures that are followed when a student is suspected of academic misconduct can be found on this web page: <http://uwm.edu/academicaffairs/facultystaff/policies/academic-misconduct/>