Sensation & Perception
01:830:301:H6:04595
Summer 2018
Tuesdays & Thursdays 6PM – 10PM
TIL-230, Livingston Campus

Instructor: Nicholas Beacher

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Office hours: By arrangement, Psychology Building

Course Description:

Sensation and perception are central to almost all aspects of behavior and cognition. How an organism 'perceives' their environment and adapt this perception to different situations and stimuli.

We will explore the practical applications for our increased understanding of sensation and perception to identify how the brain can compute and solve problems based on recognizing patterns of local or intrinsic cues.

The goals of this course involve: 1) How the 'sense' organs interact within the nervous system to create a picture of the world. 2) How psychophysical and biological methods are used to scientifically measure perception; 3) How connections are made between the brain and the environment.

Course Readings:

Textbook: Sensation and Perception, 4th edition. Wolfe JM, Kluender KR, Levi DM et al. (2015). Sinauer Associates.

Print version or ebook are fine but the 4th edition is a MUST! You are responsible for all assigned readings prior to the lecture.

Companion Book Website: http://sites.sinauer.com/wolfe4e/index.html

^^Note: This is not the book itself!! This is the companion book that is super valuable. It does not include everything that the book goes into the exam but it is a great tool to use in addition to the book.

Grading Policy:

Attendance/Participation:	10%
Midterm:	30%
Final Exam:	40%
Presentation:	20%
=	100% maximum

Gradescale: These cutoffs are FINAL-no exceptions will be made

90%-100%	A
85%-89%	B+
80%-84%	B

75%-79%	C+
65%-74%	C
51%-64%	D
<50%	F

Course Policy & Requirements:
1) Attendance and Participation: 10%
    a. Attending lectures is of utmost importance for this course, there will be certain topics I emphasize greatly during lectures that may not be evident in the text (and vice versa). Please make every effort to attend and see policy on absences
    b. Missed classes: you are responsible for any and all material covered in class
    c. Readings: The syllabus is very clear as to what chapters must be read prior to lecture-I expect all students to have read the assigned readings, the book does an excellent job walking through the concepts in a stepwise manner and I highly recommend it!
2) Exams: 2 total (1 midterm 30% and 1 final 40%): 70%
    a. Exam policies: no makeup exams will be given due to unexcused absences and will result in a '0' grade (DO NOT SKIP)!
    b. A makeup exam will only be given in the case of a documented illness-such absences will require a doctor's AND dean's note in order to qualify for a makeup exam.
    c. There will be no dropped exams, do your best!
3) Presentation: (20%)
    a. a 20 minute group presentation about a topic (more information to follow)
4) Hand Posted signs-DO NOT TRUST ANY SIGN ON THE DOOR! Any information posted (exams postponed, cancellations, swarm of feral cats) is most likely a prank. I will directly email the class in an unforeseen cancellation or change.
5) Questions regarding anything said in class:
    a. I absolutely understand that this is a lot of information in a short amount of time. If you are struggling to keep up or require some extra help definitely see me after class (I am more than happy to clarify)
    b. Alternatively, email me to set up office hours (my lab is right next door in the Psychology building)
        i. Please note that emailing me at 4am before a test will not result in an immediate answer-be responsible and I will be happy to help.
6) Hints:
    a. Attend class: I will discuss important information and give tips on how to study for the exam!
    b. Participate: Asking questions spurs discussion, others may have similar questions. Alternatively, see me after class or set up office hours
    c. Study: Any hints I give during lecture are good to stick to, make sure to study the major topics from the book in depth, pay attention to the chapter summaries and specific slides from the lecture
    d. Read prior to the class: This course will go fast, do not skip readings

Academic Integrity:

Students must comply with the Rutgers Academic Integrity Policy: http://academicintegrity.rutgers.edu/. Do not cheat during exams-it is not worth the risk. If you are struggling in the course I am happy to help.

Course Schedule (tentative):

Week#	Date	Objective, Readings, Assignment
Week 1Tue	Tue, Jul 10	Reading: Ch0, Ch 1 Course Obj: Intro to S & P, Psychophysics, sensory neuroscience/perception & neural processing
Week 1Thr	Thr, Jul 12	Reading: Ch1, 2 Course Obj: Light and optics, Retina, darklight adaptation
Week 2Tue	Tue, Jul 17	Reading: Ch2, 3 Course Obj: Light perception, Cortical and subcortical processes, spatial vision and contrast
Week 2Thr	Thr, Jul 19	Reading: Ch4 Course Obj: Perception (Gestalt laws of organization), visual pathways, figure and ground (visual completion), object/facial recognition
Week 3Tue	Tue, Jul 24	Reading: Ch7 Course Obj: Midterm! 30% (ch1,2,3,4), Attention and vision
Week 3Thr	Thr, Jul 26	Reading: Ch7, Ch5 Course Obj: ch7:Attention, visual search, physiological basis of attention, disorders ch5:color perception (3 steps: detect, discriminate, appearance), individual differences, other useful colors
Week 4Tue	Tue, Jul 31	Reading: Ch6, 8 Course Obj: ch6: Spatial perception: monocular cues, size and depth: binocular vision Ch8:motion: biological motion sensing
Week 4Thr	Thr, Aug 2	Reading: Ch8 (visual motion perception) Course Obj: computation of visual motions-correspondence problem (aperture problems), integrate motion, area MT: motion adaptation and optics flow
Week 5Tue	Tue, Aug 7	Reading: Ch9, 10 Course Obj: ch9: Sound perception and the ear, hearing mechanisms, auditory system basics Ch10: sound localization, how sound is utilized in reality
Week 5Thr	Thr, Aug 9	Presentation! 20%, Mini review session
Week 6Tue	Tue, Aug 14	Final Exam! 40% (ch 5, 6, 7, 8, 9, 10)