

PSY 3680, Sensation & Perception, 3 credits Spring 2019, MWF 1:00-1:50 pm

Catalog Description

Overview of the methods and principles of sensation and perception as analyzed through the study of the major senses of vision, hearing, touch, taste, and smell.

Course Overview

We often don't think about the incredibly complex task that our senses have in detecting and encoding information from the environment, or the way in which we are able to organize this information into meaningful representations of the world. By the end of this course, you will have a much deeper understanding and appreciation for this ability.

This course will begin with a brief history and overview of methods related to the study of sensation and perception, followed by an in-depth study of vision for the first half of the course. Next, we will analyze the role of attention in vision, followed by the examination of the physiology and perceptual experiences related to hearing, touch, smell, and taste.

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|----------------------|----------------------------------------------------------|
| Office Room: | 1055 Physical Sciences |
| Office Phone: | 217-581-2279 |
| E-mail: | jrstowell@eiu.edu |
| Office Hours: | MW 9:00-10:30 am, T 10:00-11:00 am, or by appointment |



Course Materials

Wolfe, J. M., Kluender, K. R., Levi, D. M., et al. (2012). *Sensation & Perception (3rd ed.)*. Sunderland, MA: Sinauer Associates, Inc. [View the textbook online resources](#) (for the 4th ed.)

Course Objectives



1. Evaluate major concepts, theories, and research in sensation and perception.
2. Apply innovative, integrative, and critical thinking skills to interpret psychological phenomena related to perception.
3. Interact effectively, sensitively, and ethically with people from diverse backgrounds and demonstrate understanding of the sociocultural contexts that influence individual differences in sensation and perception.
4. Apply knowledge of sensation and perception to real-world issues.
5. Write critically and effectively by evaluating evidence, issues, ideas, and problems from multiple perspectives.
6. Interpret how the anatomy/physiology of each of the major senses influences our perceptual experiences.
7. Develop a greater appreciation for your senses!

Teaching Philosophy

"The mind is not a vessel to be filled, but a fire to be kindled" --Plutarch

Course Requirements and Grading

| Course Requirement | Points | % of Total |
|----------------------------------------------|------------|-------------|
| Quizzes and Final Exam | | |
| Cumulative chapter quizzes | 250 | 50% |
| Cumulative final exam | 50 | 10% |
| Assignments and Activities | | |
| Journal article critiques (2 x 40 points) | 80 | 16% |
| Sensory deprivation report | 40 | 8% |
| Online exercises (5 x 10 points = 50 points) | 50 | 10% |
| Class Participation | 30 | 6% |
| Total | 500 | 100% |

Grading scale: A (89%), B (79%), C (69%), D (59%), F (<59%)



Chapter Quizzes

- **You may use your book, notes, Internet, and any other resources except other people when taking your quizzes. Collaborating with others on the quiz is considered academic misconduct.**
- Quizzes are designed to assess your fulfillment of the course objectives. Questions on the chapter quizzes are multiple choice and short answer from material covered in lecture and the textbook. The questions are based on the application of the information you have learned and will test your critical thinking skills.
- Chapter quizzes will be administered online. They will be available for 3 to 4 days after we complete the associated chapter in class. Quiz questions are randomly selected from a set of questions. Thus, you may end up with 2 questions that test similar concepts and you will not have the exact same questions as another student. Across all the quizzes, the average difficulty for everyone in the class will be very similar.
- As part of a cumulative testing strategy, each quiz contains questions from each of the prior chapters. As such, each subsequent quiz will have more questions and you will have more time to complete them.
- You will have two attempts at each quiz. Your grade will be the higher of the two attempts. The quizzes are timed, approximately 2 minutes per question. The timer begins once you open the quiz. Save each answer as you go. Don't wait until the end when you submit the quiz!
- After the quiz has been submitted, you can immediately view the correct answers to the questions you missed.
- The short answer question is the same for both attempts on every quiz. Thus, I will accept only your first answer on that question and will transfer your score from the first attempt to your second attempt (you don't need to answer it on your 2nd attempt). The short answer question is intended to assess your ability to analyze and evaluate information in a novel manner.
- If you have technical problems while taking a quiz, please complete the quiz at the next possible time. You may have a warning that your time has expired, but don't worry, your answers will be saved. Then, send me an e-mail explaining why your time went over. Brightspace D2L records all quiz times.
- Quiz deadlines will be adjusted for students with University-approved absences.

Final Exam

Similar to the quizzes, the final exam is comprehensive and will contain questions randomly selected from each of the prior chapters.

Online Exercises (ed.ted.com)

There are 5 online exercises embedded into the chapter modules. Generally, they involve viewing a short tutorial or video, followed by completing multiple-choice questions and a short writing assignment. Four of the 5 online exercises are located at <http://ed.ted.com> and will require you to register (the first time) and login **prior** to completing the online exercise.

To access the multiple choice quiz, click on “Think” to the right of the video. Your performance on your **FIRST** attempt of the online quiz will count toward your grade. However, you can watch the video as many times as you want before you take the online quiz.

Journal Article Critiques

This assignment helps students gain skills necessary to read, interpret, and synthesize original research, which will be applicable in research methods, capstone courses, and other courses in the major.

Learning Objectives

1. Summarize, analyze, and evaluate research methods of articles published in peer-reviewed journals.
2. Integrate material learned in the course with current empirical research.
3. Use electronic library resources (Booth Library, Google Scholar, etc.) to improve information literacy.
4. Earn course credit through critical writing as a complement to taking tests or other assignments.



Furthermore, this writing assignment helps fulfill six of the [Psychology Department Learning Goals](#) (1.1, 1.3, 1.4, 2.1, 2.2, and 3), which are based on the American Psychological Association’s [Guidelines for the Undergraduate Psychology Major v2.0](#).

View the complete instructions in the D2L module titled “Writing Assignments.”

The minimal requirements for this assignment do not meet the requirements for papers submitted to the electronic writing portfolio (EWP).

Sensory Deprivation Paper

Your assignment is to deprive yourself of vision, hearing, or both for a minimum of 4 consecutive hours during part of the day that you would normally be active. You may choose to go without vision (blindfolded) or hearing (ear plugs) or both!

Please do not participate in activities that would jeopardize your health and well-being (e.g., driving with earplugs, running blindfolded). You are responsible for your own safety!

Specific instructions are found in Brightspace D2L.

Class Participation

Using mobile devices for classroom polling can promote student participation and engagement. The benefits of using classroom polling include:

1. All students can respond to questions posed in class.
2. Students give more honest answers of what they are thinking and learning because their responses are anonymous to other students.
3. Students and instructors get immediate feedback about learning.
4. It works well with peer instruction, which has also been shown to increase student learning.

A portion of your grade will depend on audience participation using the polling software. As long as you participate in at least 70% of the class periods that I record participation, you will receive the full participation points. Below that, your participation points will be reduced accordingly. Tracking individual participant responses is done for the purposes of grading, instructional research, and course development. Tracking individual participant responses is done for the purposes of grading, instructional research, and course development.

Technology Policy

- Cell phones should not be used during class, except with the instructor's permission. Texting or talking on cell phones disrupts the learning environment, especially for the person doing it :)
- Laptops may be used in class only for taking notes.



Reading Schedule, Important Dates

Please read the chapters in the textbook before class in order to enhance understanding of demonstrations, examples, and group discussions. Please note this schedule is subject to change.



| Week | Date | Chapter Topic |
|------|--------|-------------------------------------------------------------------------------------------------|
| 1 | 7-Jan | Introduction |
| | 9-Jan | 1. Dawn of Psychophysics |
| | 11-Jan | 1. Signal Detection Theory |
| 2 | 14-Jan | 1. Brain neuroimaging, 2. Light Physics, Anatomy of the eye, Optics |
| | 16-Jan | 2. Optics, Retina, Phototransduction Online Activity Due: How do Glasses Help us See? |
| | 18-Jan | 2. Lateral and Vertical Pathways, Receptive Fields |
| 3 | 21-Jan | MLK Birthday Observed |
| | 23-Jan | 2. Receptive Fields, Sensitivity vs. Resolution |
| | 25-Jan | 2. Dark Adaptation |
| 4 | 28-Jan | 3, 4. From the Retina to the Cortex, Middle Vision |
| | 30-Jan | 4. Gestalt Principles of Grouping Journal Critique #1 due |
| | 1-Feb | 4. Object Recognition |
| 5 | 4-Feb | 4. Object Recognition |
| | 6-Feb | 5. Trichromacy |
| | 8-Feb | 5. Trichromacy |
| 6 | 11-Feb | 5. Opponent Process |

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| | 13-Feb | 5. Color Vision Deficiency, Color Constancy Online Activity Due: Synesthesia |
| | 15-Feb | Lincoln's Birthday Observed |
| 7 | 18-Feb | 6. Monocular Depth Cues |
| | 20-Feb | 6. Monocular Depth Cues Online Activity Due: Explanations of the Moon Illusion |
| | 22-Feb | MISTOP Conference |
| 8 | 25-Feb | 6. Binocular Depth Cues |
| | 27-Feb | 6. Development of depth |
| | 1-Mar | Midterm review |
| 9 | 4-Mar | 7. Types of Attention |
| | 6-Mar | 7. Visual Searches Online Activity Due: The Distracted Mind |
| | 8-Mar | 7. Physiology of Attention and Disorders |
| | 11-Mar | Spring Break |
| | 13-Mar | Spring Break |
| | 15-Mar | Spring Break |
| 10 | 18-Mar | 10. Hearing II: Sound Localization |
| | 20-Mar | 10. Hearing II: Sound Localization Journal Critique #2 due |
| | 22-Mar | 9. Hearing: Properties of Sound |
| 11 | 25-Mar | 9. Hearing: Anatomy of the ear |
| | 27-Mar | 9. Hearing: Sensory Transduction Online Activity Due: Dangerous Decibels |
| | 29-Mar | 9. Hearing: Frequency and Amplitude |
| 12 | 1-Apr | 9. Hearing Loss |
| | 3-Apr | 13. Touch Receptors Sensory Deprivation Paper due |
| | 5-Apr | 13. Touch Pathways |
| 13 | 8-Apr | 13. Touch Pain, Touch Acuity & Localization |
| | 10-Apr | 13. Psychophysical Aspects of Touch |
| | 12-Apr | 14. Olfaction |
| 14 | 15-Apr | 14. Olfaction |
| | 17-Apr | 14. Olfaction |
| | 19-Apr | 15. Taste |
| 15 | 22-Apr | 15. Taste |
| | 24-Apr | 15. Taste |
| | 26-Apr | Final Review, Last lecture |
| 16 | 1-May | Final Exam, Wednesday 12:30-2:30 pm |

View the [university's academic calendar](#) for add, drop, and withdrawal deadlines.

Late Work Policy

Late work submitted after the deadline may be penalized by up to 20% of the points for the assignment. Requests for extensions of deadlines may be made for university excused absences or for extenuating circumstances.

Academic Integrity

Students are expected to maintain principles of academic integrity and conduct as defined in [EIU's Code of Conduct](#). Violations will be reported to the Office of Student Standards. Cheating, plagiarism, and other forms of academic misconduct will not be tolerated. As a student, you have a personal responsibility to maintain high standards of academic conduct to preserve academic integrity. Academic misconduct will result in zero points for the assignment and appropriate disciplinary action, according to university guidelines.

Students with Disabilities

If you are a student with a documented disability in need of accommodations to fully participate in this class, please contact the Office of Disability Services (ODS). All accommodations must be approved through ODS. Please stop by Ninth Street Hall, Room 2006, or call 217-581-6583 to make an appointment.

Student Success Center

Students who are having difficulty achieving their academic goals are encouraged to contact the [Student Success Center](#) for assistance with time management, text taking, note taking, avoiding procrastination, setting goals, and other skills to support academic achievement. The Student Success Center provides individualized consultations. To make an appointment, call 217-581-6696, or go to 9th Street Hall, Room 1302.

Early Alert System

Eastern maintains an Early Alert System (EAS) to help students know when they are not performing up to academic standards. Alerts may be given for poor attendance, not turning work in on time, or doing poorly on an assignment or test. EAS staff will contact you to help you find resources to help you be a successful student. Resources may include time management, study skills, test-taking, finding tutors, or other resources related to academic issues. I will use the EAS if I believe you could benefit from talking to a success coach about these issues.

Booth Library

Located in the center of campus, Booth Library is the best place to do research, find expert help, or study in a calm, distraction-free environment. In addition to the many print resources, Booth provides access to high quality e-books, journals and scholarship not freely available on the Web. Stop by the Reference Desk or go to <http://library.eiu.edu> to explore library resources. Get expert help with your research by contacting the Booth Library reference librarians. Visit, call 581-6072, or go to <http://booth.eiu.edu/ask> to connect with a librarian.