

Psychology 402 (W): Sensation and Perception, Fall Term 2019

Class Time: M & W 12:40-2:00 pm

Room: 119 Psychology

| | OFFICE | OFFICE HOURS | CONTACT |
|--------------------------------|-----------------|------------------------------|---|
| Prof. - Mark W. Becker | 285B Psychology | Mon 2:15 - 3:30 and by appt. | becker54@msu.edu ; 432-3367 |
| TA. – Daisuke Katsumata | 213 Psychology | Thursday 10-11 and by appt. | katsuma2@msu.edu |

Course Description: The world is an external environment, yet our experience of the world occurs within our brains. How do our senses transform the external world into information that our brains/minds can understand and reliably interpret? For instance, how does the light reflected off an object allow us to perceive and identify that object? How do sound, smell, taste, and touch allow us to create a rich and detailed mental representation of the external world? To answer these questions we will examine perceptual processes at a number of different levels.

At the neurological level we will investigate how individual cells respond to external stimuli, how the anatomy and physiology of the perceptual systems allow for efficient processing of incoming information, and how different brain areas are specialized for the analysis of specific types of sensory information.

At a behavioral level we will investigate illusions and subjective experiences. A careful examination of these experiences reveals the processes underlying perception and the type of information used by the brain. For example, if you stare at the center of the figure and move your head toward and away from the page you should see an illusion of motion. Since this works with virtually everyone and virtually every time, the illusion must be "created" by our brains. By investigating these types of errors we hope to learn more about the way the brain actively recreates the world.

Through lab experiments we will learn the techniques that researchers use to investigate how the brain's processing strategies combine with the neurological wiring and structures to give rise to perception.

Goals:

- Learn the structure and function of our sensory systems.
- Learn how our brain compresses and analyzes incoming information
- Learn how to design good experiments to investigate sensation & perception
- Learn to write up an experiment in APA style

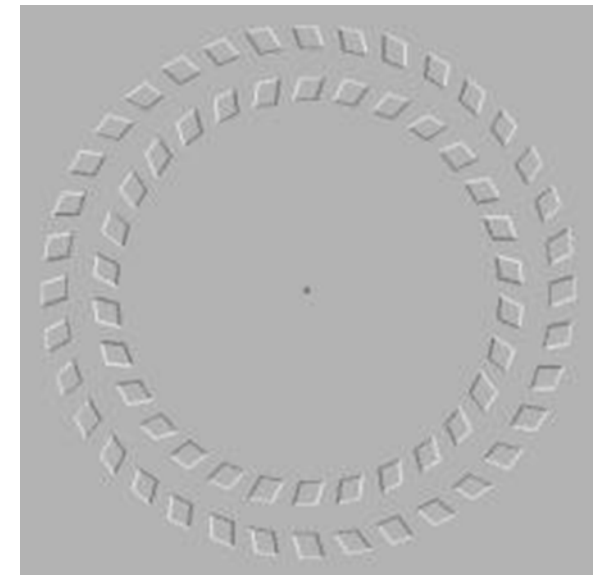
Required Text & Readings: The official required text is Sensation & Perception, 9th edition by E. Bruce Goldstein. However, you are welcome to use either the 8th edition if you are trying to save money. In addition, I will occasionally post pdf files of research articles on my website. These articles are to be read by the date indicated on the syllabus.

Website: I will maintain a D2L course webpage. I will add content to the site as the course progresses including: the syllabus, handouts for the writing assignments, review sheets, a course schedule, links to the required pdf's, and pdf's of my slides.

NOTE: The slides will be posted *after* class and they will assist recall if you have been to class, but may be incomprehensible if you have not. The slides and the readings will be linked from the course schedule.

Exams (65%): There will be two midterm exams and a final exam. These exams are designed to test your knowledge of the material and your ability to apply that knowledge to new situations. Exams will include multiple choice, fill in the blanks, and a handful of brief essays. Your best exam will count 25% towards your final grade with your other two exams counting 20% each towards your final grade.

Papers & Lab Sessions (35%): This is a writing intensive course. As a result there will be two papers. Each paper will consist of an APA style research paper. To generate data for these papers we will meet twice in a computer lab and run



Look at the spot in the center and slowly move your head towards and away from the page. What do you notice?

experiments on ourselves. We will use the data generated during these meetings as the basis for the paper write-ups. The papers should be in APA style and consist of a title page, abstract, introduction, methods, results, discussion, figures, and references.

The first paper will be a relatively short (4-5 page) assignment which will allow you to practice writing in this form and provide feedback about your writing. The original draft of the paper will be worth 8% of your final grade. You will have an opportunity to revise the original and resubmit it. The resubmitted paper will be worth an addition 4% of your grade.

The second paper will be longer (10-12 pages) and will be handed in twice. A polished draft (i.e., what you think is a final version of the paper) will be due in stages. Each section of the paper will be graded, and then handed back to you. The total from these initial stages will be worth 15% of your total grade. A final revision of that paper in which you put all the revised sections into one final manuscript will be due on the last day of class and will be worth 8% of your final grade.

Preparation: The course material will be unfamiliar to most of you and will be fairly challenging. As a result, the course will be primarily lecture-based (although I will try to keep you actively engaged with many demonstrations and in-class exercises). Given this format, I leave the question of whether you read the assigned reading prior to class or after class up to each of you. If you are able to understand and keep up with the lectures, having my introduction to the material may actually allow you to get more out of the text. If, however, you are having difficulty with the lectures you should read the chapters before class. This should make lectures easier to follow. I would recommend looking at the chapters again shortly after lecture to fill in any of the details that I was not able to cover in class.

Attendance & Participation : Attendance at each class is critical to your success. I will present some of the material in a different way than the text and I will present some information that is not covered by the text. Attendance at the lab sessions is particularly critical. I encourage you to participate in the demonstrations and in-class exercises and to ask questions throughout class. If you are confused by lecture, odds are someone else is too, please ask me. The more actively involved you are, the better.

E-mail: When needed I will e-mail announcements to the class. I encourage you to regularly check your MSU e-mail account.

Make Up Exams & Late Assignments: You may take a makeup exam in case of (1) a documented medical emergency, or (2) a legitimate schedule conflict, such as a religious holiday or sports travel, that you inform me about at least 1 week in advance. In either case, please send email to me identifying the emergency or conflict as early as possible.

If you have a legitimate excuse, you may take the exam either at another time on the normal exam day, or sometime prior to the next course meeting. If you cannot take the exam on one of those days, then that exam will be omitted from your final score and its points distributed over the other exams. If you miss an exam for any other reason, or don't notify me about your emergency or conflict in a timely manner, your score will be 0.

Late papers will be excepted if there is a documented medical emergency or will be docked 10% of the total possible points for each day they are late.

If some other circumstance arises during the term that interferes with your ability to keep up in the course, please be aware that there is little that can be done to change a final grade once the term is over. If such a circumstance arises, please seek advice as soon as possible.

Academic Honesty: [The Spartan Code of Honor](#) states, "As a Spartan, I will strive to uphold values of the **highest ethical standard**. I will practice honesty in my work, foster honesty in my peers, and take pride in knowing that **honor is worth more than grades**. I will carry these values beyond my time as a student at Michigan State University, continuing the endeavor to build personal integrity in all that I do." In addition, Article 2.III.B.2 of the [Student Rights and Responsibilities \(SRR\)](#) states that "The student shares with the faculty the responsibility for maintaining the integrity of scholarship, grades, and professional standards." The (insert name of unit offering course) adheres to the policies on academic honesty as specified in General Student Regulations 1.0, Protection of Scholarship and Grades; the all-University Policy on Integrity of Scholarship and Grades; and Ordinance 17.00, Examinations. (See [Spartan Life: Student Handbook and Resource Guide](#) and/or the MSU Web site: www.msu.edu.)

Therefore, unless authorized by your instructor, you are expected to complete all course assignments, including homework, lab work, quizzes, tests and exams, without assistance from any source. You are expected to develop original work for this course; therefore, you may not submit course work you completed for another course to satisfy the requirements for this course. Also, you are not authorized to use the www.allmsu.com Web site to complete any course work in this course. Students who violate MSU academic integrity rules may receive a penalty grade, including a failing grade on the assignment or in the course. Contact your instructor if you are unsure about the appropriateness of your course work. (See also the [Academic Integrity](#) webpage.)

Limits to Confidentiality. Essays, journals, and other materials submitted for this class are generally considered confidential pursuant to the University's student record policies. However, students should be aware that University employees, including instructors, may not be able to maintain confidentiality when it conflicts with their responsibility to report certain issues to protect the health and safety of MSU community members and others. As the instructor, I must report the following information to other University offices (including the [MSU Police Department](#)) if you share it with me:

- -Suspected child abuse/neglect, even if this maltreatment happened when you were a child,
- -Allegations of sexual assault or sexual harassment when they involve MSU students, faculty, or staff, and
- -Credible threats of harm to oneself or to others.

These reports may trigger contact from a campus official who will want to talk with you about the incident that you have shared. In almost all cases, it will be your decision whether you wish to speak with that individual. If you would like to talk about these events in a more confidential setting you are encouraged to make an appointment with the [MSU Counseling Center](#).

Accommodations for Students with Disabilities (from the [Resource Center for Persons with Disabilities \(RCPD\)](#)): Michigan State University is committed to providing equal opportunity for participation in all programs, services and activities. Requests for accommodations by persons with disabilities may be made by contacting the Resource Center for Persons with Disabilities at 517-884-RCPD or on the web at rcpd.msu.edu. Once your eligibility for an accommodation has been determined, you will be issued a Verified Individual Services Accommodation ("VISA") form. Please present this form to me at the start of the term and/or two weeks prior to the accommodation date (test, project, etc.). Requests received after this date may not be honored.

If you require testing accommodations (additional time, less disruptive room, etc.) you must contact me and present your VISA **at least two weeks before the exam date** to schedule an alternative exam. Typically, I will schedule for you to take the exam during a special exam sessions offered by the Psychology Department. Those exams occur in small group settings and are offered every Monday & Wednesday at 3:00pm in Giltner 346. If you are unable to make either of those times, or that option does not meet your VISA accommodations, you may be able to schedule to take your exam at the RCPD office. In either case, the exam must be scheduled well in advance, so you need to adhere to the two week prior notification requirement.

Disruptive Behavior: Article 2.III.B.4 of the [Student Rights and Responsibilities \(SRR\)](#) for students at Michigan State University states: "The student's behavior in the classroom shall be conducive to the teaching and learning process for all concerned." Article 2.III.B.10 of the [SRR](#) states that "The student and the faculty share the responsibility for maintaining professional relationships based on mutual trust and civility." [General Student Regulation 5.02](#) states: "No student shall . . . interfere with the functions and services of the University (for example, but not limited to, classes . . .) such that the function or service is obstructed or disrupted. Students whose conduct adversely affects the learning environment in this classroom may be subject to disciplinary action through the Student Judicial Affairs office.

Getting Help: The best way to get help is to come to office hours. Both the TA and I will hold regular office hours. If you can't make office hours, you can e-mail us to make an appointment for a different time. We will try to be diligent about responding, but occasionally your message may be hidden amongst the spam. If you don't hear back in a reasonable time, send the message again.

| Final Grade Breakdown | |
|--------------------------|-----|
| Paper 1 draft | 8% |
| Paper 1 resubmission | 4% |
| Final Paper draft | 15% |
| Final Paper resubmission | 8% |
| Best Exam | 25% |
| Next Best Exam | 20% |
| Worst Exam | 20% |

| Final Grade Scale | |
|---|-----|
| 91% and above | 4.0 |
| 87%-90% | 3.5 |
| 81%-86% | 3.0 |
| 77%-80% | 2.5 |
| 71%-76% | 2.0 |
| 67%-70% | 1.5 |
| 61%-66% | 1.0 |
| Less than 61% | 0.0 |
| I reserve the right to make the scale more lenient, if needed | |

Psy 402 - Fall 2019 - Tentative Schedule

The following is a *tentative* schedule. I reserve the right to change it to best meet the needs of the course.

| Date | Topic | Reading 8 th Ed | Reading 9 th Ed |
|----------------|--|----------------------------|----------------------------|
| 8/28 | Introduction to the Course | | |
| 9/2 9/4 | Labor Day- No Class Balance | Paper on Website | Paper on Website |
| 9/9 9/11 | Basic Methods of Investigation & The Eye Eye & Retina | Ch 1 Ch 3 | Ch 1 Ch 2 |
| 9/16 9/18 | Lab in BCC N012 Lateral Inhibition & Area V1 | Ch 2 Pg 73-87 | Ch 3 Pg 77-83 |
| 9/23 9/25 | Area V1 Paper 1 Due Development of Va | Pg 73-87 | Page 68-69 |
| 9/30 10/2 | Review Midterm 1 | | |
| 10/7 10/9 | -Color Paper 1 Revision Due Color & Motion | Ch 9 Ch 9 & 8 | Ch 9 Ch 9 & 8 |
| 10/14 10/16 | Motion & Depth Attention Lab in EPP 109 | Ch 10 | Ch 10 |
| 10/21 10/23 | Depth Higher Streams of Processing | Ch 10 Pages 87-97 | Ch 10 Pages 83-93 |
| 10/28 10/30 | Methods & Results Due - Attention/Object Perception <i>Attention 2</i> | Pages 36-38; Ch 6 Ch 5 | Pages 70-73; Ch 6 Ch 5 |
| 11/4 11/6 | Review Midterm 2 | | |
| 11/11 11/13 | The Ear Hearing Intro Due Hearing | Ch 11 Ch 12 | Ch 11 Ch 12 |
| 11/18 11/20 | Localization & Speech – Pheromones & Smell | Ch 12 & 13 Ch 15 | Ch 12 & 13 Ch 15 |
| 11/25 11/27 | Discussion & Abstract Due - Smell & Taste Grad School Info | Ch 15 | Ch 15 |
| 12/2 12/4 | Touch & Pain Review | Ch 14 | Ch 14 |

FINAL EXAM: Tues, Dec 10th 12:45-2:45 in Psy 119