

## PSY 302: Sensation and Perception, Fall Term 2021

In Person: Tues & Thurs 1:00-2:20 pm

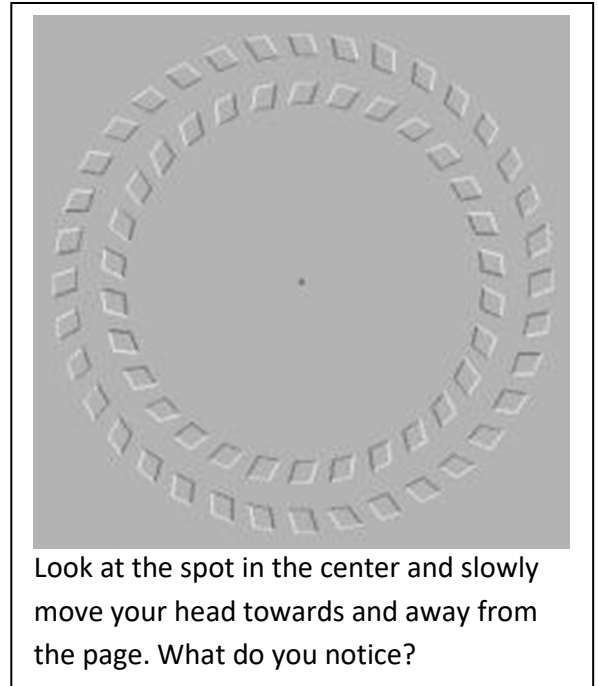
Room: Psychology 118

Instructor	Office Hours (via Zoom)	Office	Contact
Prof. - Mark W. Becker	Wed 12:00-1:00pm and by apt. Zoom Link: <a href="https://msu.zoom.us/j/9293115244">https://msu.zoom.us/j/9293115244</a> Zoom Passcode: psy302	Psychology 295B	<a href="mailto:becker54@msu.edu">becker54@msu.edu</a> 517-432-3367

**Course Description:** The world is an external environment, yet our experience of it 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 hearing, 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 different levels of analysis.

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.



### Goals/Objectives:

- Learn the structure and function of our sensory systems.
- Learn how our brain compresses and analyzes incoming information.
- Learn how the brain actively interprets incoming sensations to lead to our perceptions.
- Learn how to design good experiments to investigate sensation & perception.

**Required Text & Readings:** The official required text is Sensation & Perception, 10<sup>th</sup> edition by Goldstein & Brockmole. However, you are welcome to use either the 8<sup>th</sup> or 9<sup>th</sup> edition to save money. I will occasionally post pdf files of research articles on D2L. 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 (on the Schedule page) as the course progresses including: the syllabus, pdf's of the slides I use in class, handouts for any assignments, review sheets, a course schedule, and links to the any pdf's we use.

**Course Delivery:** Despite the pandemic, we are trying to offer this course in-person. However, this is a fluid situation, and our ability to continue in-person depends on the state of the pandemic and the health of our community, something that we all play a role in. From time-to-time we may need to revert to remote (e.g., if the pandemic gets worse, if I get quarantined, etc.). If that happens, I will provide information quickly about how we will adjust to a synchronous online format utilizing zoom.

**Online Testing and Office Hours:** While there is value of in-person instruction, there are some aspects of the course that can be done well remotely, and in the interest of public health I plan to hold our exams, quizzes, and office hours remotely. **Exams will be performed via D2L during class time** on the scheduled exam dates. I will be available during that time via zoom for questions while you are taking the exam. **Quizzes will be done asynchronously via D2L** during the assigned time window on the syllabus. Office hours will be held weekly via zoom (see the top of the syllabus or D2L for times and the zoom link). This reliance on D2L for exams, quizzes, and office hours means that **high speed internet will be required for the course**.

**Maintaining our Health & Attendance Policy:** *If you are feeling ill, even slightly ill, please stay home!!* I will make the content of the days' lectures (slides) available via D2L. In addition, one of the reasons that I have opted to make exams and quizzes online is so that there is not an "incentive" to show up when slightly ill. So please, please, be responsible and if you are feeling ill, do not risk exposing others to your illness.

If, however, you are feeling well, come to class. I cover things slightly differently than it is covered in the book, and I can tell you from years of experience that people who attend do better in the course. That said, you are adults and can make your own decisions about attendance (e.g., I will not penalize people for lack of attendance). But like all adults, your decisions have consequences – you are likely to do worse if you do not attend regularly.

**Masking, Vaccinations, and Social Distancing:** Current University [policy](#) requires that we all are vaccinated and masked. We will follow those mandates and will adjust our behavior as those policies change. If you have a legitimate reason that prevents you from being able to wear a mask, the University policy is that you need to receive an accommodation from RCPD. If you fail to wear a mask (without RCPD accommodations), I will first remind you, but if you refuse you will be asked to leave class. If you do not do so, you will be reported for disciplinary action. Consequences for this type of course disruption can be severe, including dismissal from the University.

While the University no longer mandates social distancing, we have 125 people in a room that fits 249 – so spread out a little.

More information on these policies including a good FAQs page can be found here <https://msu.edu/together-we-will/faqs/>.

**Exams (60%):** There will be three midterm exams (although one will be at the final exam time), each worth 20% of the total grade. 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 couple of brief essays. The exams are to be taken remotely via D2L during class time.

**Quizzes (20%):** There will be six brief quizzes throughout the term. These are designed to make sure you are keeping up with and understanding lecture. They will be done asynchronously online. Your best five quizzes will be included in the calculation of your final grade (i.e., you get to throw out your lowest score or a quiz which you miss).

**Assignments/Participation (20%):** Throughout the term we will do a handful of Assignments. These will be either mini experiments, demos, or thought questions that you will access via D2L. These are designed to make the information we are discussing in lecture more concrete, to expose you to perceptual research designs, and to provide an opportunity to think about the material from lecture. These assignments will require you to perform some activity (online), answer some brief questions based on that experience, and upload your answers to D2L. In terms of grading, these are learning opportunities, and if you hand in an attempt, you will receive credit. That said, the more thought and time you put into these assignments the more you will get out of them. I will also post "correct" answers to the questions as soon as the assignment closes, so you can see what the correct answers are. Finally, for these assignments (and these assignments alone), it is acceptable to work with other members of the class – discussing the experiments and question with others may be helpful. Still each individual will have to submit answers

to the assignments. We will discuss these exercises in class to highlight key principles of the course and to provide insights into how to design and interpret perceptual experiments.

**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 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.

**E-mail:** When needed I will e-mail announcements to the class. I encourage you to regularly check your MSU e-mail account, and I would ensure that D2L is forwarding D2L emails to your primary email account.

**Make Up Exams & Late Assignments:** You may take a makeup exam or quiz in case of (1) a documented medical emergency, or (2) a legitimate schedule conflict, such as a religious holiday, 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 or quiz either at another time on the normal exam day, or sometime prior to the next course meeting. If you cannot take the make-up on one of those days, then that exam or quiz will be omitted from your final score and its points distributed over the other exams or quizzes. If you miss an exam or quiz for any other reason, or don't notify me about your emergency or conflict in a timely manner, your score will be 0.

Late assignments will be accepted 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.

**Getting Class Help:** The best way to get help is to come to office hours. I will hold regular office hours via zoom, during which you are welcome to drop in on the zoom link. If you can't make office hours, you can e-mail me to make an appointment for a different time. I 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.

**Getting Technology Help:** If you are having difficulties with the tech (accessing D2L, taking quizzes/exams on D2L), the best bet is to call the IT helpline at (517) 432-6200; toll free (844) 678-6200; Email: [ithelp@msu.edu](mailto:ithelp@msu.edu). They are open 7am to midnight.

**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](http://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](http://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:** 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](http://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 (e.g., additional time.) you must contact me and present your VISA *at least two weeks before the exam date* to schedule an alternative exam.

**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."

**Attendance:** Students who do not attend the first two days of class may be dropped from the class to allow space for other interested students. Beyond that, you are adults, if you choose not to come that is your decision, but that decision will likely come with consequences; those who do not attend do not do well.

**Use of Lecture Notes:** Course materials may not be reproduced, shared with those not in the class, or uploaded to other online environments. Doing so may result in disciplinary action.

Final Grade Breakdown		
Item	Points	% of total
Participation/Assignments	100	20.0%
Quizzes (best 5)	100	20.0%
MT 1	100	20.0%
MT 2	100	20.0%
MT 3 (Final)	100	20.0%
<b>TOTALS</b>	<b>500</b>	<b>100%</b>

Final Numerical Grade		
Total Points	Total %	Grade
450	90%	4.0
425	85%	3.5
400	80%	3.0
375	75%	2.5
350	70%	2.0
325	65%	1.5
300	60%	1.0
< 300	<60 %	0.0

Note: I reserve the right to make the grading scale more lenient.

## Tentative Schedule

Date	Topic	Assignment	Reading 8th Ed	Reading 9th Ed	Reading 10 <sup>th</sup> Ed
9/2	Introduction to the Course				
9/7	Balance	do Weber's Experiment by 5pm 9/8	pdf on Website	pdf on Website	pdf on Website
9/9	Balance to Methods	<b>Quiz 1 - Balance by 5pm 9/13</b>			
9/14	Methods	Hand-in Weber's Exp. Answers by 5pm 9/15	Ch 1; Pg 401-406	Ch 1; Pg 395-400	Ch 1; Pg 384-393
9/16	The Eye	Do Receptive Field (RF) Exp by 5pm 9/20			
9/21	The Eye 2	Do Simult Contrast Experiment by 5pm 9/22	Ch 3	Ch 2	Ch 2
9/23	Lateral Inhibition	Hand in RF questions by 5pm 9/23 Hand in Simult Contrast questions by 5pm 9/27	Ch 2	Ch 3	Ch 3
9/28	V1	<b>Quiz 2 – Methods &amp; The Eye by 5pm 9/29</b>	Pg 73-87	Pg 77-83	Pg 73-79
9/30	Catch up & Review				
10/5	<b>Midterm 1</b>				
10/7	Color Vision		Ch 9	Ch 9	Ch 9
10/12	Color 2		Ch 9	Ch 9	Ch 9
10/14	Motion 1	Do Biological Motion Exp by 5pm 10/18	Ch 8	Ch 8	Ch 8
10/19	Motion 2	Hand in Biological Motion Questions by 5pm 10/20	Ch 8; Pg 155-159	Ch 8; Pg 154-163	Ch 8; Pg 149-154
10/21	Depth	<b>Quiz 3 – Color and Motion by 5pm 10/22</b>	Ch 10	Ch 10	Ch 10
10/26	FALL BREAK				
10/28	Depth 2 & Higher Streams		Pg 87-97	Pg 83-95	Pg 79-88
11/2	Higher Streams & Attention	Do Dual Task Demo by 5pm 11/3	Ch 6	Ch 6	Ch 6
11/4	Attention and Binding	<b>Quiz 4 – Depth &amp; Higher Streams by 5pm 11/5</b>	Ch 5	Ch 5	Ch 5
11/9	Catch up and Review				
11/11	<b>Midterm 2</b>				
11/16	The Ear		Ch 11	Ch 11	Ch 11
11/17	Hearing		Ch 11 & 12	Ch 11 & 12	Ch 11 & 12
11/23	Grad School Presentation				
11/25	THANKSGIVING				
11/30	Localization & Speech		Ch 12 & 13	Ch 12 & 13	Ch 12 & 13
12/02	Smell & Taste	<b>Quiz 5 – The ear and hearing by 5pm 12/02</b>	Ch 15	CH 15	Ch 15
12/7	Touch & Pain		Ch 14	Ch 14	Ch 14
12/9	Catchup & Review	<b>Quiz 6 – Smell, touch and taste by 5pm 12/09</b>			
<b>Final Exam: Thursday, Dec 16 2021 12:45pm - 2:45pm</b>					