

**GRAND VALLEY STATE UNIVERSITY**  
**PSY 361 PERCEPTION WINTER 2022**  
**SYLLABUS**

## What, When, and Where

**Course Number:** Psychology 361-01, Winter 2022

**When:** Mondays, 6:00-8:50 PM

**Where:** AuSable Hall 1310

## Instructor Information

**Dr. Leon Lou**

**Email:** [loul@gvsu.edu](mailto:loul@gvsu.edu)

**Office Hours:**

In-Person: MWF 12-1pm; Office: ASH 2313

Online: Zoom or Blackboard Collaborate; Please email me for appointment.

## Course description

This course will provide you with an introduction to the study of perception, with a heavy emphasis on visual perception. In short, we will explore how we see, and to a lesser extent, how we hear, feel, smell and taste. It turns out that there's more to this than you might think. Many people tend to think that there can't be too much going on in perception, simply because it's so quick and effortless ("Isn't seeing like taking a picture with a camera?"). In reality, there's a tremendous amount of complicated (and interesting!) processing going on in your minds when you open your eyes and see. Our minds not only make perception possible, but make it seem like no big deal. Because of this, you will learn some surprising (even shocking) things in this course about how your mind works -- and also learn that some of the basic assumptions you've always had about how you perceive things are completely misguided.

Understanding how perception works can also provide a foundation for scientific understanding on individual differences in perception. However, this course will barely touch the role of perception in social interaction, and questions such as how the same event is viewed in drastically different ways by people of different cultural backgrounds and values. Instead, the course is almost exclusively concerned with understanding immediate sensations and perceptions triggered by visual and other sorts of stimuli received by the body. By the end of the class, I hope you will gain a better understanding of how human experience is constructed in the mind and brain, and how a valid distinction between reality and illusion can be made from experience.

## Objectives (as in GVSU course catalog)

Upon successful completion of this course students will be able to:

- 1) describe basic issues of perception, including the scope and limitation of perception, the philosophical issues underpinning modern scientific studies on perception, the psychological and biological facts crucial to understanding perception, and the different approaches to a scientific understanding of perception.
- 2) explain the problems about perception that are unresolved by research and are still being investigated by scientists.
- 3) inform their world views with what is scientifically known or knowable about perception.

## Covid-19 related attendance policy and regulations

Following University guidance, absence from classes will be excused for students “who have been exposed to someone who tests positive for COVID-19 (and will need to quarantine) or who themselves have tested positive (and will need to isolate)”. For updated information and guidance on attendance and other related issues, please refer to <https://www.gvsu.edu/provost/covid-19-resources-266.htm>

## Course Material

### Required Text book

Yantis and Abrams (2017). *Sensation and Perception*, 2<sup>nd</sup> Edition, Worth.

You should have been contacted by GVSU bookstore about the availability of the e-textbook. Now you have access to it in the “GVSUT Save” on the Blackboard. You could choose to opt out of the e-book if you already have the textbook. The last day to do so is January 21st.

### Supplementary Readings (SR)

Supplementary readings are selected for both their interestingness and relevance to the themes of this course. Many post-class homework (“post assignments” for short) questions are about the supplementary readings:

1. Auvray, M., Hannequin, S., & O’Regan, J. K. (2007). Learning to perceive with a visuo-auditory substitution system: Localisation and object recognition with ‘The vOICe’. *Perception*, 36, 416-430.
2. Chun, M., & Jiang, Y. (1999). Top-down attentional guidance based on implicit learning of visual covariation. *Psychological Science*, 10, 360 - 365.
3. Cowey, A., Small, M., Ellis, S. (1994). Left visuo-spatial neglect can be worse in far than in near space, *Neuropsychologia*, 32(9), 1059-1066.
4. Flanagan, J. R. and Lederman, S. J. (2001). Feeling bumps and holes. *Nature*, 412, 389-391.
5. Franklin, A., Bevis, L., Ling, Y., and Hurlbert, A. (2010). Biological components of colour preference in infancy, *Developmental Science*, 13(2), 346-354.
6. Jacomuzzi, A., Kobau, P., Bruno, N. (2003). Molyneux’s question redux, *Phenomenology and the Cognitive Sciences*, 2: 255–280.
7. Jameson, K. & Highnote, S. (2001). Richer color experience in observers with multiple photopigment opsin genes, *Psychonomic Bulletin & Reviews*, 8(2), 244-261.
8. Langton, S., Watt, R. J., & Bruce, V. Do the eyes have it? Cue to the direction of social attention, *Trends in Cognitive Sciences*, 4(2), 50-59.
9. Little, A. C., Feinberg, D. R., DeBruine, L. M., Jones, B. C. (2013). Adaptation to faces and voices: unimodal, cross-modal, and sex-specific effects, *Psychological Science*, 24(11), 2297–2305.
10. Livingstone, M. & Conway, B. R. (2004). Was Rembrandt Stereoblind? *New England Journal of Medicine*, 351(12), 1264-1265.

11. Lou, L. (2020) Size inflation in drawing from mirror and proportional accuracy in observational drawing, *Perception*, 49(7), 749-770.
12. Mancuso, K. et. al. (2009). Gene-therapy for red-green colour blindness in adult primates, *Nature*, 461(7265), 784-787.
13. Moore, C., & Egeth, H. (1997). Perception without attention: Evidence of grouping under conditions of inattention. *Journal of Experimental Psychology: Human Perception & Performance*, 23, 339 - 352.
14. Sacks, O. (1995). The case of the color blinded painter, In "An anthropologist on Mars"
15. Simons, D. J., & Levin, D. T. (1998). Failure to detect changes to people in a real-world interaction. *Psychonomic Bulletin and Review*, 5, 644 - 649.
16. Tong, F., Nakayama, K., Vaughan, J. T., & Kanwisher, N. (1998). Binocular rivalry and visual awareness in human extrastriate cortex, *Neuron*, 21, 753-759.
17. Tsakiris, M. & Haggard, P. (2005). The Rubber hand illusion revisited (2005): Visuotactile Integration and self-attribution, *Journal of Experimental Psychology: Human perception and perception*, 31(1), 80-91.

### GVSU Library Streaming Videos

1. Vision and Perception: <https://sk-sagepub-com.ezproxy.gvsu.edu/video/vision-and-perception-a-conversation-with-kalanit-grill-spector>
2. Visual Perception: [https://digital-films-com.ezproxy.gvsu.edu/p\\_ViewVideo.aspx?xtid=74612](https://digital-films-com.ezproxy.gvsu.edu/p_ViewVideo.aspx?xtid=74612)
3. Do you see what I see: [https://digital-films-com.ezproxy.gvsu.edu/p\\_ViewVideo.aspx?xtid=48257](https://digital-films-com.ezproxy.gvsu.edu/p_ViewVideo.aspx?xtid=48257)
4. Perception: the Theories: [https://digital-films-com.ezproxy.gvsu.edu/p\\_ViewVideo.aspx?xtid=8786](https://digital-films-com.ezproxy.gvsu.edu/p_ViewVideo.aspx?xtid=8786)
5. Limits of Perception: [https://digital-films-com.ezproxy.gvsu.edu/p\\_ViewVideo.aspx?xtid=55011](https://digital-films-com.ezproxy.gvsu.edu/p_ViewVideo.aspx?xtid=55011)
6. Everyday Illusion: [https://digital-films-com.ezproxy.gvsu.edu/p\\_ViewVideo.aspx?xtid=74616](https://digital-films-com.ezproxy.gvsu.edu/p_ViewVideo.aspx?xtid=74616)

### Illusion Websites

1. Illusion of the year: [Illusionoftheyear.com](http://Illusionoftheyear.com) (some of the most amazing visual illusions made by vision scientists in the past ten or so years)
2. Optical illusions : [psychology.wikia.org/wiki/Optical\\_illusions](http://psychology.wikia.org/wiki/Optical_illusions) (a list of classic optical illusions)
3. 141 Optical Illusions and Visual Phenomena: <https://michaelbach.de/ot/index.html> (a large number of most well researched illusions categorized with good, though not necessarily complete explanations)
4. Auditory illusions: <https://vitals.lifehacker.com/fair-fights-stacey-abrams-on-how-we-can-protect-our-rig-1844596436>
5. Five auditory illusions (BBC 4): <https://www.bbc.co.uk/programmes/articles/52JkXxXgs2nCk7jCc8YtbD9/can-you-believe-your-ears>

### Course Delivering Details

We will meet once a week in person. To efficiently use the classroom time, you are expected to read, before each class session, selected sections of the chapters in the textbook assigned for the coming week and complete an open-book quiz ("pre-assignment" for abbreviation) on your understanding of the themes and important issues covered by the reading (see Schedule). You are also expected to post your questions on the discussion board about the readings---both what you don't understand and whatever issues you consider to be related to the readings, as well as to respond to your peers' questions if you can. In the classroom, I will lecture on broad issues and selected topics of each unit with demonstrations of various perceptual illusions. On multiple occasions, I will conduct quizzes or group activities to assess your understanding of the lectures just delivered. After each class you will have about three days to revise your

answers to the pre-assignment questions, and to answer a few new questions in a post-class assignment (“post assignment” for abbreviation). Most of the new questions will come from the supplementary readings and various illusion websites, selected for enriching and broadening your understanding of the topics covered in the class. Both the pre- and post- assignments will be graded, with more weight on the post-assignments.

As an incentive for applying theories of perception to explain your experience and appreciating the wonder of perception, you are invited to post in a class blog on the Blackboard throughout the semester. The posting topics can cover anything related to the course material. As long as your posts are thoughtful and related to a concept from the class you will receive full credit. Make your posts interesting by sharing an experience you have had with a perception concept or by sharing an interesting, related video clip not already mentioned in my lecture and other course material. You have to post two times in class blog (implemented as a discussion forum).

To highlight the point that illusions arise from the same perceptual system that enables “normal” perception, we will hold an on-line “Illusion Fest”. As the name indicates, this is going to be a festive event. You will pick your favorite illusion or perceptual mechanism, and create your own version of it. It cannot be a copy or near-copy of an example shown in class or in the textbook or one found on the web. Your work will be evaluated by your peers with regard to its quality, creativity, and significance to understanding how perception works.

Finally, there will be three exams, two midterms and one final exam. The two midterm exams will be conducted on line and are not cumulative in coverages. The final exam will be conducted in person in the classroom and will be cumulative. All three exams will be in multiple-choice format.

## Keys to success in this class

1. It is extremely important that you have a sense of control over your learning and stay organized. Students are normally expected to spent two to three times more than the traditional class time studying outside of classroom, which means 6-9 hours per week. Well, it ultimately depends on your level of preparedness and motivation for the class, and what and how much else you have to do this semester. Please make a weekly schedule that works for you for reading the textbook and other course material and turn in the assignments on time (mostly on Thursdays and Sundays).
2. Engage with the course material: You will understand a new idea/concept/phenomenon only if you are truly motivated and interested in it, which means you are able to raise meaningful questions. Being able to raise a meaningful question is a sign of seeing a gap between what you already know and what is unknown but interesting to you. Please take notes when you read, try answering “Test Yourself” questions in each chapter, raise your questions on the discussion board, and complete the “pre-class assignment” of each of 10 units on time. Equally important is your willingness and capability to use my feedback in class to think over and revise the questions asked in the pre-class assignment. Similarly, please take the two midterm exam reviews as opportunities to fill any gaps in your understanding of the course material.
3. As stated above, regularly attending the class is expected of all students with exceptions covered by university policies implemented this semester because of the ongoing Pandemic situation. Please take your own notes of my lectures and do not hesitate to ask questions on points you don’t understand or new questions that you consider to be related and not covered in my lectures.
4. Please check out many on-line resources of the Student Academic Success Center <https://www.gvsu.edu/sasc/academic-skills-resources-107.htm> for tips you find useful.

## Grading

Your final grade will be based on the total points that accrue in following categories:

1. Ten pre-class assignments (100 points total)
2. Ten post-class assignments (300 points total)
3. Your questions and answers on course content posted on the discussion board (20 points)
4. Class-blog posts (30 points)
5. Illusion Fest (50 points) and up to 1% extra credit for extraordinarily creative one.
6. Two Mid-term exams (125 points each and 250 points total)
7. Final exam (250 points)
8. Class attendance and participation of in-class activities (100 points)

**Total: 1100 points or 100%**

## Assignment of letter grade on percent score:

93-100% = A; 89-92% = A- ; 86-88% = B+ ; 82-85% = B ; 79-81% = B- ; 76-78% = C+ ; 72-75% = C ; 69-71% = C- ; 65-68% = D+ ; 60-64% = D ; 0-59% = F

## Withdrawal

Drop with a “W” deadline: March 11<sup>th</sup> by 5pm

## Available assistance

Students who have difficulty with the course should contact me as soon as possible. If you need special disability-related accommodation, please inform me and contact the Disability Support Resources ([dsrgvsu@gvsu.edu](mailto:dsrgvsu@gvsu.edu), 331-2490).

## Schedule

Date	Topic	Readings*, Assignments, & Exams
1/10	<b>Course Overview</b> Course description and requirements; Covid-19 related issues; Overview	
1/17	<b>Martin Luther King, Jr. Day Recess, no class</b>	
1/23		Pre assignment 1 due
1/24	<b>Unit 1: Introduction to perception</b> Lecture topics: Evolution of perception: from transduction to conscious perception; How do we measure people’s perceptual capabilities	Ch. 1 Library videos 1, 2, &5
1/27		Post assignment 1 due
1/30		Pre assignment 2 due
1/31	<b>Unit 2: Light and the eyes</b> Lecture topics: What is the difference between your eyes and a camera?	Ch. 2

2/3		Post assignment 2 due
2/6		Pre assignment 3 due
2/7	<b>Unit 3: The visual brain</b>	Ch. 3
	Lecture topics: Primary visual cortex and its function; Why do we need so many different visual areas?	SR. 3
2/10		Post assignment 3 due
2/13		Pre assignment 4 due
2/14	<b>Unit 4: Perceiving visual features: Color</b>	Ch. 5
	Lecture topics: How do we perceive an infinite number of colors? What happens to the color blind?	SR. 5, 7, 12, 14 Library video 3
2/17		Post assignment 4 due
2/20		Pre assignment 5 due
2/21	<b>Unit 5: Perceiving visual features: depth and motion</b>	Ch. 6 & Ch. 7
	Lecture topics: Why do we perceive 3D even our eyes take 2D images? What happens to the stereo blind and the motion blind?	SR. 10
	Midterm Exam 1 Review	
2/24		Post assignment 5 due
2/28	<b>Midterm Exam 1 (online)</b>	
3/5		Pre Assignment 6 due
3/7	<b>Spring Break, no class</b>	
3/14	<b>Unit 6: Perceptual Organization</b>	Ch. 4
	Lecture topics: How do we perceive figures from mosaics and pixels? How does the brain enable us to recognize faces, places and objects?	SR. 8, 9, 13 Library videos 4, 6
3/17		Post Assignment 6 due
3/20		Pre Assignment 7 due
3/21	<b>Unit 7: Perceptual constancy, Perception for action and for depiction</b>	Parts of Ch. 5 & Ch. 6 on color, size and shape constancy
	Lecture topics: How do we perceive the same size, shape, and color of an object at different viewing distances, viewing angles and with different illumination? Why is perception part of action? Why can't most people draw what they see?	Ch. 8 SR. 6, 11
3/24		Post Assignment 7 due
3/27		Pre Assignment 8 due
3/28	<b>Unit 8: Attention and visual awareness</b>	Ch. 9
	Lecture topics: Can we perceive anything without attention? Is attention necessary for conscious vision?	SR. 2, 15, 16
3/31		Post Assignment 8 due
4/3		Pre Assignment 9 due Illusion Fest proposal due
4/4	<b>Unit 9: Sound, Ears, and auditory brain</b>	Ch. 10 & Ch.11
	Lecture topics: How is hearing both different from and similar to vision?	Parts (on speech perception) of. Ch. 12
4/7		Post Assignment 9 due
4/10		Pre Assignment 10 due
4/11	<b>Unit 10: The body senses</b>	Ch. 13

4/14	Lecture topics: What's special and unique about cutaneous (skin) senses?	SR. 1, 4, 17 Post Assignment 10 due
<b>4/18</b>	<b>Unit 11: Chemical senses</b> Lecture topics: What's special about smell, and taste? What do the existence of synesthesia and the viability of sensory substitution suggest about brain mechanisms of perception? Midterm Exam 2 Review	Ch. 14 & 15
4/20	<b>Midterm Exam 2 (online)</b>	
4/22		Illusion Fest work due
<b>4/25</b>	<b>Final Exam</b>	

\* I will post a reading guide to each Unit for more focused reading. There are also parts of my lecture that are not covered by the textbook.

This course is subject to the GVSU policies listed at <http://www.gvsu.edu/coursepolicies/>