

PSYCH 120: Visual & Spatial Cognition

Summer Session 1 2017
M & W, 9:00am – 12:30pm
Engineering 2 194

Instructor

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Office Hour: M @ 12:30pm-1:30pm, SS2 409

Teaching Assistant

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Course Overview

Focuses on high-level perception and visual, spatial, and other sensorimotor representations as elements of human cognition. Topics include imagery, visual attention, mental models, spatial language, the body schema, near-body space, and brain organization for representing space. Prerequisite(s): course 1 or 20 or 20A, and course 100.

Course Learning Objectives

By the end of the course, each student should be able to:

1. Describe the major details of visual and spatial cognition from behavioral and neural standpoints
2. Identify and interpret real-world instances of cognitive processes related to visual and spatial cognition
3. Apply concepts from visual and spatial cognition to address real-world issues
4. Think critically about the design and interpretation of research related to visual and spatial cognition

Textbook & Materials

A Top Hat subscription is required, along with purchase of the course pack.

Additional readings from academic journals are listed on the syllabus and will be posted on the Top Hat website.

Grading

Your grade for this course is determined by a weighted average of assignments, participation, and exams.

Exams	60%
<i>2 Exams (30% ea.)</i>	
Thought Papers	20%
<i>2 Papers (10% ea.)</i>	

Final Poster Project	10%
Top Hat Participation	10%
Extra Credit	
Research Participation	2%

Course Components

Exams. There are two non-cumulative exams in this course, each worth 30% of the final course grade. The exams will be administered in the beginning of class on 7/10 and 7/24 and you will have the entire class period to complete them. The exams will consist of a combination of multiple choice, fill-in-the-blank, and brief short answer questions. Study guides will be posted for each exam a week before the exam date.

Thought Papers.

There are two thought papers that will be assigned during this course, each worth 10% of the final course grade. For each thought paper, you will choose one empirical article from the required readings list and write a 2-3 double spaced response. Your response must include: a summary of the article, a critique of something in the article, a connection of the findings of the article to material covered in the course, and a connection between the article and a real-world topic.

Resources for the thought papers will be available on the Top Hat page. Short response papers should be submitted to Canvas on by 11:55pm on the due date. Due dates are 7/5 and 7/19.

Final Poster Project. The final poster accounts for 10% of the final course grade. Throughout the course you will design and carry out a mini-research project with a group of your choosing. During class you will form groups, pick a project related to the course, and run the experiment on your peers. The final poster will be a way to present your findings to the class. More information regarding the poster will be available later in the session.

Top Hat Participation. The final 10% of the course grade is comprised of your participation in answering Top Hat questions during class and within the Top Hat chapters.

Research Participation. You can earn up to 2% of extra credit on your final grade by participating in on-campus research studies. Each study you participate in is worth one extra credit point, and 30 minutes or 0.5 credit studies are worth half an extra credit point.

Late Assignments/Exam Conflicts

If there are any potential conflicts with exam dates or assignments, please notify me as soon as possible. For assignments, there is a 3-hour grace period which will allow you to submit the assignment up to 3 hours after the deadline without a penalty. For each day an assignment is late, you will lose a letter grade on the assignment score. Make-up exams will be given on a limited basis and you must contact me before the exam date (unless completely unable). Makeups will be offered during other exam times or at a scheduled makeup exam at the end of the session.

PSYCH 120: Course Schedule

Wk	Date	Topics	Readings	Due
1	6/26	Overview of Visual & Spatial Cognition Vision: What & Why?	Marshall & Fink, 2001 Cavanagh, 2011 (Introduction) Carbon, 2014	
	6/28	Color Object Recognition	Conway, 2009 (Up to Color Vision Genetics and Retinal Mosaics) Winkler, Spilmann, Werner, & Webster 2015 Edelman, 1997 Top Hat: Machine Learning <i>(OPTIONAL)</i>	
2	7/3	Depth Perception Auditory Perception	Cutting, 2005 Gibson & Walk, 1960 Darwin 1997 Kolarik, Cirstea, Pardhan, & Moore 2014	
	7/5	Perceiving People Bodily Senses	Yovel & O'Toole, 2016 Berlucchi & Aglioti, 1997 Maravita & Iriki, 2004	Thought Paper #1
3	7/10	Exam 1		
	7/12	Navigation Imagery	Tversky, 1993 Top Hat: Navigation Pylyshyn, 2003 Kosslyn, Ganis, & Thompson, 2003	
4	7/17	Consciousness Language	Atkinson, Thomas, & Cleeremans, 2000 Walker, Bergen, & Nunez, 2014 Kay & Regier, 2006 Top Hat: Language, Space, Vision Top Hat: Gesture & Sign	
	7/19	Synesthesia Virtual Reality	Withoft & Winawer 2006 Yee & Bailenson 2007 Top Hat: Virtual Reality	Thought Paper #2

5	7/24	Exam 2		
	7/26	In-Class Projects		Final Poster

Academic Honesty & Integrity Policy

Academic integrity is the cornerstone of a university education. Academic dishonesty diminishes the university as an institution and all members of the university community. It tarnishes the value of a UCSC degree.

All members of the UCSC community have an explicit responsibility to foster an environment of trust, honesty, fairness, respect, and responsibility. All members of the university community are expected to present as their original work only that which is truly their own. All members of the community are expected to report observed instances of cheating, plagiarism, and other forms of academic dishonesty in order to ensure that the integrity of scholarship is valued and preserved at UCSC.

In the event a student is found in violation of the UCSC Academic Integrity policy, he or she may face both academic sanctions imposed by the instructor of record and disciplinary sanctions imposed either by the provost of his or her college or the Academic Tribunal convened to hear the case. Violations of the Academic Integrity policy can result in dismissal from the university and a permanent notation on a student’s transcript.

For the full policy and disciplinary procedures on academic dishonesty, students and instructors should refer to the [Academic Integrity page](#) at the [Division of Undergraduate Education](#).

Students Requiring Accommodations

UC Santa Cruz is committed to creating an academic environment that supports its diverse student body. If you are a student with a disability who requires accommodations to achieve equal access in this course, please submit your Accommodation Authorization Letter from the Disability Resource Center (DRC) to me privately during my office hours or by appointment, preferably within the first two weeks of the quarter. At this time, I would also like us to discuss ways we can ensure your full participation in the course. I encourage all students who may benefit from learning more about DRC services to contact DRC by phone at 831-459-2089 or by email at drc@ucsc.edu.

Title IX

The university cherishes the free and open exchange of ideas and enlargement of knowledge. To maintain this freedom and openness requires objectivity, mutual trust, and confidence; it requires the absence of coercion, intimidation, or exploitation. The principal responsibility for maintaining these conditions must rest upon those members of the university community who exercise most authority and leadership: faculty, managers, and supervisors.

The university has therefore instituted a number of measures designed to protect its community from sex discrimination, sexual harassment, sexual violence, and other related prohibited conduct. Information, advice, referrals, and/or copies of the UC Policy on Sexual Violence and Sexual

Harassment and the UC Santa Cruz Procedures for Reporting and Responding to Reports of Sexual Violence and Sexual Harassment are available to all students, faculty, and staff by contacting Tracey Tsugawa, Title IX/Sexual Harassment Officer, 105 Kerr Hall, 459-2462, or ttsugawa@ucsc.edu.