

COGS 101A: Sensation & Perception

UC San Diego Global Seminar | Florence, Italy

Summer Session I, 2027 | June 28 – July 31

Instructor	Drew E. Walker, PhD — Assistant Teaching Professor, Dept. of Cognitive Science
Email	dehoffma@ucsd.edu
Location	Florence, Italy (classroom provided by study abroad partner)
Class Schedule	Monday – Thursday, 9:00 AM – 10:30 AM
Units	4 units
Prerequisites	Upper Division Standing
Office Hours	Monday 12:30- 1 MTh

Course Overview

How do we come to experience what is “out there” in the world? Physical stimuli in our environment interact with our sensory organs and ultimately produce our subjective experience of reality. The goal of this course is to develop a basic understanding of the underlying mechanisms that make this possible. We will cover behavioral and neural evidence, explore current theories, and discuss the many mysteries yet to be explained about how we come to have conscious awareness of the world around us. More than half of the course focuses on vision; we will also cover audition, olfaction, taste, touch, and other senses.

This Global Seminar version of COGS 101A is specially designed to take advantage of our location in Florence, Italy. The Renaissance art and architecture of Florence, the color history of Venice, the acoustics of Milan’s La Scala, and the chemical-sense experiences of Bologna and Parma are integrated directly into course content.

Global Seminar Format & Contact Hours

Weekly schedule:

- Monday – Thursday: 11:00 AM – 12:30 PM
- Fridays: reserved for excursions, site visits, or independent study
- Excursion weeks: class may be shortened or moved to accommodate travel

Learning Outcomes

By the end of this course, students will be able to:

- Summarize and interpret classic and current empirical findings in sensation and perception
- Describe the structure and transduction mechanisms of the major sensory systems
- Understand major computational and cognitive theories of perception

- Connect perceptual science to real-world phenomena encountered during site visits in Italy
- Apply principles of visual, auditory, and chemical perception to Renaissance art, architecture, and food culture

Grading

Assignment	Percentage
Class Participation & In-Class Activities	25%
Midterm Exam	30%
Final Exam	30%
Italy Observation Journal (4 entries)	15%

Note: There are no TAs on this Global Seminar. The instructor grades all assignments directly. The observation journal replaces the SONA research participation component from the on-campus version of this course.

Grade Scale: A+ 98–100 | A 93–97 | A– 90–92 | B+ 87–89 | B 83–86 | B– 80–82 | C+ 77–79 | C 73–76 | C– 70–72 | D 60–69 | F below 60

Italy Observation Journal

Four short journal entries (1–2 pages each) submitted on paper within 48 hours of each designated excursion. Each entry should connect what you observed during the site visit to specific course concepts covered that week. Prompts will be provided before each excursion.

Exams

The midterm (end of Week 2) and final (end of Week 5) will consist of multiple-choice and short-answer questions. The final will be cumulative with emphasis on material from Weeks 3–5. Exam questions will require you to explain concepts in your own words and apply them to novel situations, including examples drawn from our Florence-based excursions.

Technology & Course Materials

Course readings will be provided as PDFs on a USB drive distributed on the first day of class, as well as via Canvas (when internet is available). Students should download all materials before departure. Reliable high-speed internet is not guaranteed at all locations. Bring a laptop or tablet for in-class activities. All exams will be administered on paper as a backup if technology is unavailable.

Academic Integrity

Students are expected to uphold UC San Diego's academic integrity policies. Collaboration on exams is not permitted. Generative AI tools may not be used on exams or the observation journal. See: <http://academicintegrity.ucsd.edu/>

Code of Conduct

All UC San Diego policies apply during this Global Seminar, including those regarding academic dishonesty, alcohol and drug use, and sexual harassment. The UC San Diego Student Code of Conduct is in effect throughout the program. Students are expected to represent UC San Diego respectfully in all interactions with local communities, museum staff, and host-country residents.

Course Schedule

Note: Excursions are confirmed in consultation with the study abroad provider and subject to change. Class sessions on excursion days may be shortened or rescheduled.

Week	Dates	Topics	Excursions / Activities
Week 1 June 28–July 3	Mon–Thu 9 AM–1 PM	Vision I: Qualia & Psychophysics; Light & Eyes; Rods & Cones; Ganglion Cells & Lateral Inhibition; Path from Retina to Cortex	Friday: Orientation walk of Florence; introduction to visual scene in the city
Week 2 July 7–10	Mon–Thu 9 AM–1 PM	Vision II: V1 and Beyond; Color Perception; Object Perception; Size & Distance; Motion Perception Midterm Exam: Thursday July 10	Friday July 11: Uffizi Gallery — Renaissance perspective, depth cues, color contrast Saturday: Florence Cathedral (Brunelleschi's dome — size/distance perception, awe)
Week 3 July 14–17	Mon–Thu 9 AM–1 PM	Audition I: Sound Waves; Ear Anatomy & Route to Cortex; Sound Localization; Auditory Scene Analysis	Weekend: Venice excursion — Gallerie dell'Accademia (color vision, Venetian painters); Perfume Museum (olfactory coding, Proust effect)
Week 4 July 21–24	Mon–Thu 9 AM–1 PM	Audition II & Auditory Aesthetics; Vestibular & Proprioceptive Senses; Cutaneous Senses, Temperature, Pain, Interoception	Weekend: Milan — Teatro alla Scala (acoustics, sound localization, auditory scene analysis, reverberation)
Week 5 July 28–31	Mon–Thu 9 AM–1 PM	Chemical Senses: Taste & Smell; Retronasal Olfaction; Flavor Perception; Crossmodal Correspondences Final Exam: Thursday July 31	Friday July 25: Bologna & Parma — Carpigiani Gelato Museum (gustatory/olfactory perception); Museo del Prosciutto (chemical senses, umami, terroir)

Excursions Summary

All excursions connect directly to course content. Excursion hours are counted toward contact hours at a rate of 2 excursion hours = 1 instruction hour.

- Uffizi Gallery, Florence — Week 2 (Visual perception, depth cues, color contrast)
- Florence Cathedral (Duomo) — Week 2 (Size/distance perception, architectural aesthetics)
- Gallerie dell'Accademia, Venice — Week 3 (Color vision, historical shifts in aesthetic norms)
- Museum of Palazzo Mocenigo (Perfume Museum), Venice — Week 3 (Olfactory coding, Proust effect)
- Teatro alla Scala, Milan — Week 4 (Acoustics, auditory scene analysis, reverberation, sound localization)
- Carpigiani Gelato Museum, Bologna — Week 5 (Gustatory/olfactory perception, crossmodal correspondences)
- Museo del Prosciutto & Museo del Salame di Felino, Parma — Week 5 (Chemical senses, umami, olfactory receptor response)

A Note to Students

This is a small, immersive seminar. With 15–28 students and no teaching assistants, participation and engagement are essential. You are not just visiting Italy, you are studying how your brain takes it in. Come curious, come ready to talk about what you're experiencing, and take full advantage of the setting. There is no better place in the world to study sensation and perception than a country that has been producing extraordinary stimuli for the human senses for thousands of years.