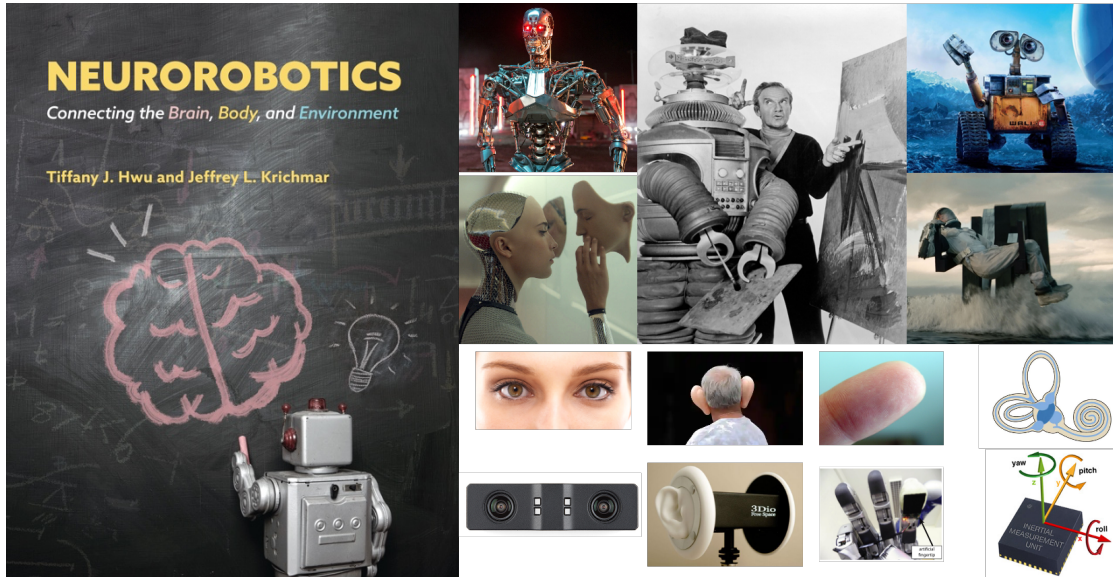


# COGS 112R/LR – Cognitive Robotics PSYCH 112R/LR – Cognitive Robotics

Winter 2024

Course website: <https://canvas.eee.uci.edu/courses/61513>



**Lecture and Instruction:** Tuesdays and Thursdays from 2PM until 3:20PM

Room: ALP 3610

**Lab Section 1:** Tuesdays from 3:30PM until 6:20PM

Room: ALP 3600

**Lab Section 2:** Thursdays from 3:30PM until 6:20PM

Room: ALP 3600

**Instructor:** Jeff Krichmar - [jkrichma@uci.edu](mailto:jkrichma@uci.edu)

Office: SBSG 2328

Office Hours – Tuesdays 12PM–1:30PM or by Appointment

**Teaching Assistants:**

Heliodoro (Helio) Tejeda Lemus – [htejeda@uci.edu](mailto:htejeda@uci.edu)

Hongju Pae – [hjpae@uci.edu](mailto:hjpae@uci.edu)

## Course Description:

Neurobots are robots whose control has been modeled after some aspect of the brain. Since the brain is so closely coupled to the body and situated in the environment, neurobots can be a powerful tool for studying neural function in a holistic fashion. It may also be a means to develop

autonomous systems that have some level of biological intelligence. The motivation to study neurorobotics comes from both a desire to understand cognition as well as to improve autonomous applications. In this course, we will explore the field of neurorobotics. Each week we will cover topics related to neurorobotics, look at a neurorobot case study, and learn concepts using a virtual robot simulator.

Lectures have been pre-recorded and will be available on Canvas via YuJa. During the lecture portion of the class, we will go over the lecture materials and answer any questions students may have. We will also teach fundamentals of programming in Python and using the LEGO Spike Prime robot.

Exams based on lecture materials and lab programming assignments. Exams will be held in ALP 3610. Exams will be open book, open note, open computer. No communications (DMs, IMs, text messages or emails allowed during exam). Grades will be curved.

*This course fulfills the Psychology Lab Requirement. **NO PROGRAMMING EXPERIENCE IS REQUIRED.***

**Textbook:**

Neurorobotics: Connecting the Brain, Body and Environment.

Tiffany Hwu & Jeff Krichmar, MIT Press, 2022.

Supplementary materials: <https://faculty.sites.uci.edu/krichmarlab/>

Publisher's website: <https://mitpress.mit.edu/9780262047067/neurorobotics/>

**Software:** Spike Prime App

1. Software available at: <https://education.lego.com/en-us/downloads/spike-app/software>
2. Installed in ALP 3600/3610.
3. Can be installed on your computer, tablet, or phone.

**Grading and Course Requirements:**

Lab Reports	20%	<b>DROP THE LOWEST GRADE FROM THE AVERAGE</b>
Chapter Quizzes	10%	<b>DROP THE LOWEST GRADE FROM THE AVERAGE</b>
Mid-term examination	20%	<b>NO MAKEUP EXAMINATIONS. NO EXCEPTIONS</b>
Final examination	25%	<b>NO MAKEUP EXAMINATIONS. NO EXCEPTIONS</b>
Final project	25%	

**REPORTS AND FILES MUST BE TURNED INTO THE CANVAS ASSIGNMENT BEFORE THE DEADLINE. NO EXCEPTIONS.**