

Course Syllabus

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How Stuff Works? Make Stuff Work!



Parts of this image are Dall-E generated.

Spring 2025 EE 005

Designing and Building EE Systems

Instructor: Ayush Pandey (meet with me 1-on-1 using this [URL](#) ↗

(<https://outlook.office.com/bookwithme/user/01b63bdd7fca46e09e7832292840538e@ucmerced.edu/meetingt6DdLw2?anonymous&ep=mlink>)

Email: ayushpandey@ucmerced.edu (<mailto:ayushpandey@ucmerced.edu>) Office: SE2 381

Course Files: [Box](https://ucmerced.box.com/s/fysfw89192n2r9z1ni58r10mqvaloqid) (all lectures, labs, and videos) [Box](https://ucmerced.box.com/s/fysfw89192n2r9z1ni58r10mqvaloqid)

Resources for TAs: [Box](https://ucmerced.box.com/s/j82qz0zx5shcnprdifnvvm0cwf5ay) (students cannot access this)

Course Reader: Serena Chan (schan87@ucmerced.edu)

 **Class Discussions:** Tue from 3.30pm to 5.20pm at GRAN 110

 **Ayush's office hour:** Tue 5.30pm to 6.30pm in SE2 381

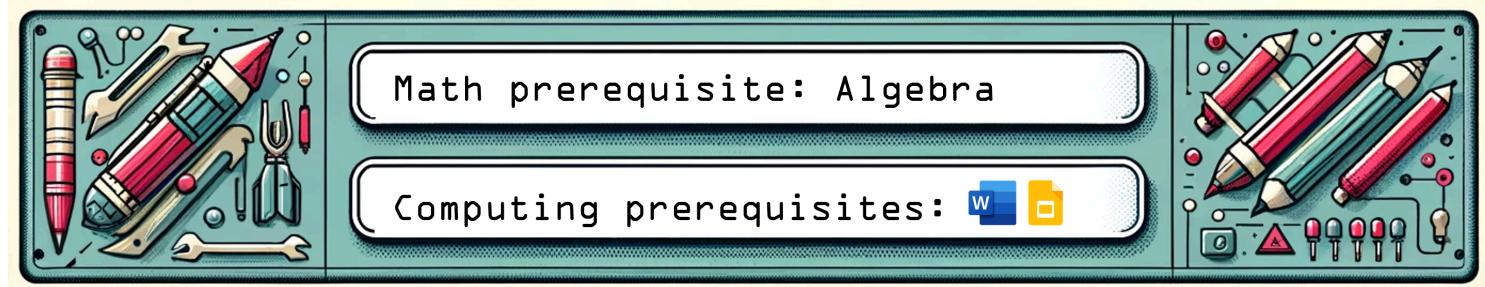
 **Group debugging sessions hosted by learning assistants in the SE2 lobby:**

1. Daniel Tsai (dtsai7@ucmerced.edu): Mondays at 4pm - 5pm
2. John Kim (jkim663@ucmerced.edu): Tuesdays at 2pm - 3pm
3. Evan Luu (eluu5@ucmerced.edu): Thursdays at 4pm - 5pm

Too long; didn't read summary of the syllabus:

- You will learn how to create your own intelligent robots, gadgets, and even mini computers!
- CatCourses is your best friend for all deadlines and announcements. Bring your laptop to the class to participate in learning together with everyone.
- Contact Ayush or the LAs for any extension requests and feel free to ask for help in office hours! We are here to support your learning and ensure that you can excel in this course.

Course prerequisites:



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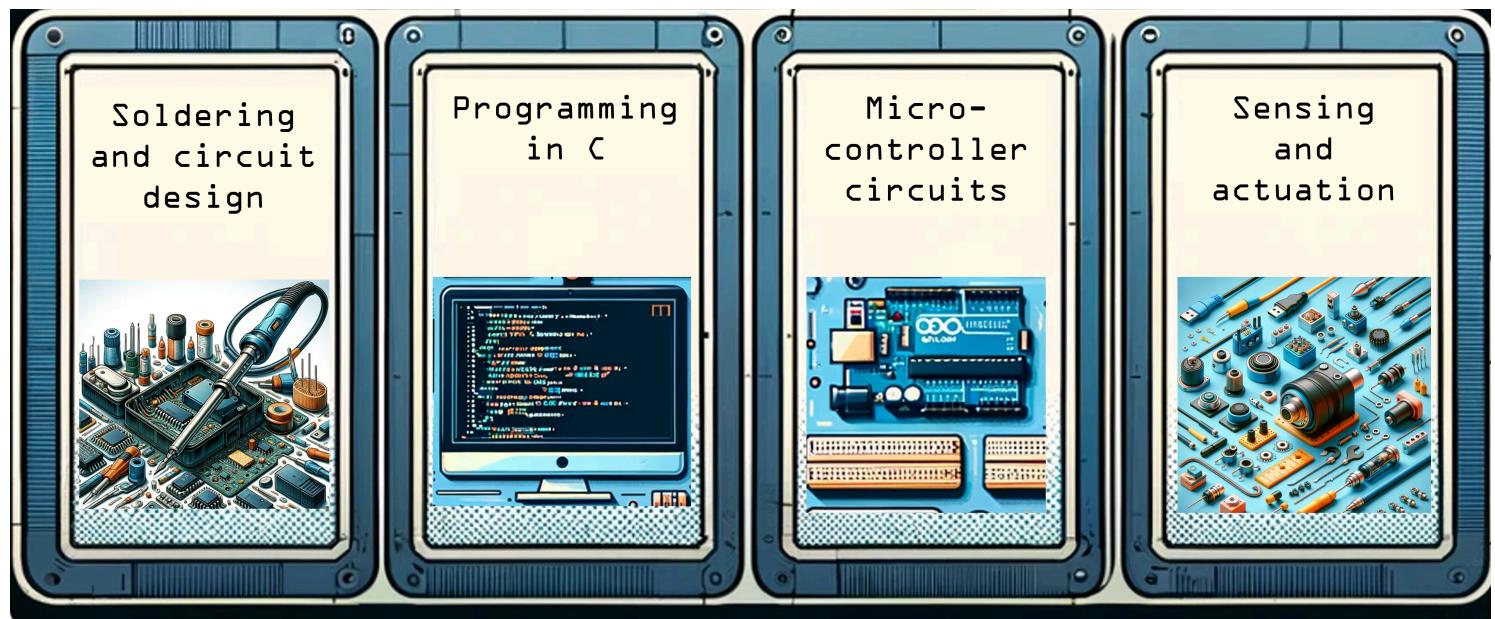
All UC Merced students are welcome! There are no course pre-requisites to take this class and excel in it. It is expected that all students are comfortable with middle school algebra and in using computers. This is intentionally defined in a subjective manner to welcome students from all backgrounds and experiences. This course serves as a training platform for all students interested in the broad area of electrical engineering. This course will actively attempt to create a welcoming climate for everyone without relying on prior experience in circuits or computer programming. However, if you do have prior experience in any of the course topics, you will find many opportunities to grow and create advanced systems. If needed, feel free to discuss your preparation with the instructor or the course staff.

Course learning goals and outcomes:

By the end of this course, you will be able to design and build simple engineering systems that can read physical signals by interfacing sensors, make logical decisions with electrical circuits, and act on the surrounding environment. You will learn to compare engineering design choices and effectively communicate this decision-making in writing and in presentations.

The **main outcome** of the course is the final project where you will **design a functioning robot** in a team and compete with the rest of the teams in the course for a prize!

Course overview:



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EE 005 will be a hands-on, projects-based course on circuits design, computational thinking, and building engineering systems. The course will include brief introduction to theoretical topics such as RC circuits, programming logic in C, and introduction to signals. Practical topics in the course include soldering, breadboarding, control of actuators, sensors, and interfacing electronic devices with microcontrollers. Optional practical topics such as GUI design, interfacing hardware with software, and 3D printing will be discussed as well. The course also emphasized the development of soft skills like teamwork, communication, and studying strategies. For the final project, students will work in teams of three/four to complete an engineering design project focused on robot design. The theoretical topics in the course will be structured as hands-on activities that make up the formative assessments using lab assignments. Students will design an independent mini project in the midterm by combining parts of lab assignments together to design an intelligent device. The final project will be scaffolded with weekly milestones so that students can make consistent progress towards the final project.

Accommodations

All accommodation requests are welcome. You can submit an accommodation letter through the Student Accessibility Services for this course. However, if you are unable to do so, you can directly discuss any accommodations that you may need with the instructor and we will do our best to provide a supportive learning environment for you. Extension requests can be directed to either the learning assistants or the instructor. Most extension requests for lab assignments will be granted without any questions asked. The duration of such extensions will be adjusted according to student needs. Extensions on exams and presentations will be granted only with legitimate documentation explaining the reason for the extension.

Support and Services for Undocumented Students

In this time of uncertainty, the university has reaffirmed their commitment to supporting undocumented students. I would like to highlight these resources in the course syllabus to promote inclusion and belonging as we embark on this learning experience together, despite the uncertain and oppressive situation around us. At UC Merced, the Monarch Center offers support to undocumented and mixed-status students through resources, advocacy, and co-curricular programs aimed at promoting academic success and personal growth. Go here to learn more: <https://undoc.ucmerced.edu/>
[\(https://undoc.ucmerced.edu/\)](https://undoc.ucmerced.edu/)

Course policy and expectations:

1. **Lectures** will be designed as hands-on class discussions where you will be able to learn most of the key concepts required and get a head start on the tasks for the week. So, please bring your laptop to the class and be prepared to work with the supplies that will be provided to you.
2. Try to make the best of the **office hours**, we are here to answer your questions and we will be understanding of any issues that you may be facing.
3. If you ever need an **extension**, contact your LAs or the instructor. All legitimate extension requests will be granted for lab assignments. We can decide on the length of extension based on the individual circumstances. Late work is still eligible for a 50% partial credit (no matter how late) => better to ask for extensions to avoid late penalty. Extensions to the midterm or final project will only be given after a review of documented reason for absence.
4. **Academic honesty:** You are expected to write your own code and any other answers. Asking for help in understanding a concept, learning from discussions online, and asking ChatGPT for explanations are all OK — but, you must write your own essays and code after you have understood the concepts. Remember that learning fundamentals in a class like this will enhance your future education and career, so copying your answers will impede your learning and progress. The full university academic honesty policy PDF is posted on CatCourses. Please review that PDF.
5. **Class Conduct and Community:** Remember that contributions from each of us can help in building a respectful, courteous, and an intellectually stimulating class environment. Language or behavior that prevents any student to participate fully in class is not acceptable. It is important to remain open

to each other's thinking and engage in rigorous, challenging discussion about issues of shared concern. Oppressive behavior such as racism, sexism, homophobia, transphobia, and ableism are designed to keep people out of conversations and participation. So, it is important to be actively mindful of such biases in conversations to promote a welcoming and inclusive climate.

6. UC Merced is committed to providing an **equal opportunity environment** for all students and employees that remains free of all forms of discrimination, harassment, and exploitation. Discrimination and harassment based on race, color, religion, creed, sex, national origin, age, disability, veteran status, or sexual orientation is a violation of state and federal law and/or University policy and will not be tolerated. Retaliation against any person who complains about discrimination is also prohibited. If you witness or experience any form of harassment, please seek support and guidance. For more information, please visit <https://ophd.ucmerced.edu/> (<https://ophd.ucmerced.edu/>)
7. **Emailing/direct messaging on CatCourses:** If the syllabus does not answer your question, please reach out to the TA. If your question needs urgent attention, you can send an email to the TA or the instructor (make your best judgement on who might answer your question best and quickest). Please **mention the course number in the subject** of any email you send.

Assessment structure:



1. All **in-class activities** (polls, worksheets, exit quizzes) are graded for participation – **20%** of your total grade. 10% of the total number of in-class activities will be dropped from your score computation to allow buffer for missed submissions/technical issues/missed classes.
2. Five hands-on individual **lab assignments** (Breadboard circuits, Programming circuits, Arduino C programming, Microcontroller signals, Sensing and actuation) constitute **30%** of the total score. Two lowest scoring lab assignments will be dropped from the final grade computation. The labs will cover the main topics in the course and most lab work will be completed during class discussions.
3. **Mid-term individual project** is worth **20%** of your final grade. This is a mini project that combines the lab assignments from the class to build something “interesting”. You can choose a project from a list of choices that we will provide to you or propose your own project. The project will consist of the following components:

1. Technical worksheet for your project (a fillable template will be provided) --- the proposal, the milestone, and the presentation.
2. Project demonstration (5-minute demo in class)
4. The **final team project** is worth **30%** of your final grade. The project will consist of the following components:
 1. Self-reflections on project progress, team bonding, work ethic, and challenges.
 2. Project presentation (15-minute presentation in class).
 3. Team report (a template will be provided).
4. Grading for final project comprises of 30 points from the motor driving milestone, 20 points from algorithm and programming milestone, 10 points from self-reflection, and 40 points from the final demonstration.
5. Milestone 1 is individually graded with all team members working on one submission. Milestone 2 is team graded with all team members working on one submission. Self-reflection is individually graded. Final demonstrations are graded based on the team.
5. The **robotics competition** is worth **exciting prizes** and bragging rights!!
6. **Extra credit activities** will be assigned throughout the semester. You can earn a maximum of **5%** toward your total grade by working on extra credit. It will never hurt your grade, will only help.

Grading scheme according to final score (out of 105, because of 5 extra credit points):

- Score in [96, 105] is A+, [92, 96) is A, and [88, 92) is A-
- Score in [84, 88) is B+, [80, 84) is B, and [75, 80) is B-
- Score in [70, 75) is C+, [66, 70) is C, and [62, 66) is C-
- Score in [58, 62) is D+, [54, 58) is D, and [50, 54) is D-

The course topics for each week are described in the table below. Each week's topics are divided between a theory component and related practice. If you cannot attend a particular class, please let Ayush know and request access to any material that may help you finish the required tasks.

Course schedule table

Date	Weeks	Topics	Notes and supplemental reading
Jan 21	Week 1	Logistics: Introductions, course expectations, learning outcomes, supplies and facilities.	Lab 1 due Feb 28

		Topic: Blinking an LED on an Arduino.	
Jan 28	Week 2	Theory: Intro to resistors, capacitors, and circuit design. Practice: Breadboards, electrical safety	 Online circuit simulations ↗ Arduino Mega schematic ↗ (https://www.arduino.cc/en/uploads/Main/arduino-mega2560_R3-schematic.pdf)
Feb 4	Week 3	Soldering and 3D printing workshop at * SRE 101 Makerspace*	Lab 2 due on Feb 4
Feb 11	Week 4	Theory: Intro to programming, branching, and loops in C Practice: Arduino programming	The IEEE GitHub workshop (https://catcourses.ucmerced.edu/courses/33872/pages/ieee-github-workshop)
Feb 18	Week 5	Theory: Branching, and loops in Arduino Practice: Arduino programming	Lab 3 due on Feb 18 ↗ Explore IR sensor specifications (https://catcourses.ucmerced.edu/courses/33872/modules/items/556189) Arduino Language Reference ↗ (https://docs.arduino.cc/language-reference/) Arduino Project Hub ↗ (https://projecthub.arduino.cc)

Feb 25	Week 6	Theory: Analog and digital signals Practice: Control of devices using an Arduino microcontroller	Lab 4 due on Feb 25. Explore CircuitPython  (https://sites.google.com/view/circuitpython/home) if you are interested.
Mar 4	Week 7	Theory: Time and frequency domain Practice: Sensor interfacing with Arduinos	Midterm project proposals (https://catcourses.ucmerced.edu/courses/33872/assignments/465587) due on Mar 4. If you still need some inspiration for your projects, look at what others have done on Arduino Project Hub  (https://projecthub.arduino.cc)! Might be slightly outdated but here is a video  (https://www.youtube.com/watch?v=BHS9uhzU9Ag) to some sensors that you might find useful.
Mar 11	Week 8	Electrical circuit schematics.	Midterm project milestone (https://catcourses.ucmerced.edu/courses/33872/assignments/465586) due on Mar 11. Online Arduino link  (https://wokwi.com/projects/new/arduino-mega).
Mar 18	Week 9	Midterm project presentations	Midterm project demonstrations. (https://catcourses.ucmerced.edu/courses/33872/assignments/465585).
Mar 25	Week 10	Spring recess; No class.	--
Apr 1	Week 11	Midterm project demo.	Lab 5 due on Apr 1. All remaining midterm project demonstrations (https://catcourses.ucmerced.edu/courses/33872/assignments/465585).

Apr 8	Week 12	Reading integrated chips datasheets. Interfacing an IC on a breadboard (L298 motor drive)	Final project team formations.
Apr 15	Week 13	Line follower robot.	Milestone 1 due for final project
Apr 22	Week 14	Algorithms for robots	Milestone 2 due for final project
Apr 29	Week 15	Looking ahead: The EE program	Final project prep.
May 6	Week 16	Final presentations.	Final project presentations and reports due.

Course Summary:

Date	Details	Due
Tue Jan 21, 2025	Syllabus quiz https://catcourses.ucmerced.edu/courses/33872/assignments/476952 due by 11:59pm	
Tue Jan 28, 2025	The LED blinked! https://catcourses.ucmerced.edu/courses/33872/assignments/476958 due by 11:59pm	
	Lab 1: Blinky https://catcourses.ucmerced.edu/courses/33872/assignments/465580 due by 3:30pm	
	Feedback on lab 01 https://catcourses.ucmerced.edu/courses/33872/assignments/479586 due by 11:59pm	

Date	Details	Due
	 <u>Office hour schedule</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/479570)	due by 11:59pm
Wed Jan 29, 2025	 <u>Lab 1: Blinky</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/479580) (5 students)	due by 11:59pm
	 <u>Lab 2: Circuits 101</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/479491)	due by 3:30pm
	 <u>Lab 1: Blinky</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/479580) (3 students)	due by 11:59pm
Tue Feb 4, 2025	 <u>Makerspace 3D printing activity</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/481431)	due by 11:59pm
	 <u>Makerspace soldering activity</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/481430)	due by 11:59pm
	 <u>Pre-course survey</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465577)	due by 11:59pm
Wed Feb 5, 2025	 <u>Lab 2: Circuits 101</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/479580) (3 students)	due by 11:59pm
Thu Feb 6, 2025	 <u>Lab 1: Blinky</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/479580) (4 students)	due by 11:59pm
	 <u>Lab 1: Blinky</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/479580) (6 students)	due by 11:59pm
Fri Feb 7, 2025	 <u>Lab 2: Circuits 101</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/479580) (1 student)	due by 11:59pm
Tue Feb 11, 2025	 <u>02/11 Confidence</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/482011)	due by 11:59pm

Date	Details	Due
	 <u>02/11 Exit quiz</u> https://catcourses.ucmerced.edu/courses/33872/assignments/482021 due by 11:59pm	
	 <u>IR Scavenger Hunt</u> https://catcourses.ucmerced.edu/courses/33872/assignments/482015 due by 11:59pm	
	 <u>Lab 1: Blinky</u> https://catcourses.ucmerced.edu/courses/33872/assignments/479630 due by 11:59pm (4 students)	
	 <u>Lab 2: Circuits 101</u> https://catcourses.ucmerced.edu/courses/33872/assignments/479631 due by 11:59pm (8 students)	
	 <u>Minute paper</u> https://catcourses.ucmerced.edu/courses/33872/assignments/479629 due by 11:59pm	
Thu Feb 13, 2025	 <u>Lab 1: Blinky</u> https://catcourses.ucmerced.edu/courses/33872/assignments/479630 due by 11:59pm (1 student)	
Fri Feb 14, 2025	 <u>Lab 2: Circuits 101</u> https://catcourses.ucmerced.edu/courses/33872/assignments/479631 due by 11:59pm (1 student)	
	 <u>Lab 3: Proximity detector</u> https://catcourses.ucmerced.edu/courses/33872/assignments/465581 due by 3:30pm	
Tue Feb 18, 2025	 <u>02/18 Conditional LED control</u> https://catcourses.ucmerced.edu/courses/33872/assignments/482714 due by 11:59pm	
	 <u>Lab 1: Blinky</u> https://catcourses.ucmerced.edu/courses/33872/assignments/479630 due by 11:59pm (1 student)	
	 <u>Serial monitor</u> https://catcourses.ucmerced.edu/courses/33872/assignments/482707 due by 11:59pm	
Wed Feb 19, 2025	 <u>Lab 3: Proximity detector</u> https://catcourses.ucmerced.edu/courses/33872/assignments/465581 due by 11:59pm (1 student)	

Date	Details	Due
Fri Feb 21, 2025	<p> <u>Lab 3: Proximity detector</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465580) due by 11:59pm (17 students)</p> <hr/> <p> <u>Lab 3: Proximity detector</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465581) due by 3:30pm (3 students)</p> <hr/> <p> <u>Lab 4: Programming the Arduino</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465582) due by 3:30pm</p>	
Tue Feb 25, 2025	<p> <u>EE 005: Your feedback until now</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/483505) due by 11:59pm</p> <hr/> <p> <u>Lab 1: Blinky</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465580) due by 11:59pm (2 students)</p> <hr/> <p> <u>Lab 2: Circuits 101</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465581) due by 11:59pm (3 students)</p> <hr/> <p> <u>Lab 3: Proximity detector</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465580) due by 11:59pm (1 student)</p> <hr/> <p> <u>Makerspace use</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/483535) due by 11:59pm</p> <hr/> <p> <u>Midterm proposal step 1</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/483536) due by 11:59pm</p>	
Thu Feb 27, 2025	<p> <u>Lab 2: Circuits 101</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465581) due by 11:59pm (1 student)</p> <hr/> <p> <u>Lab 3: Proximity detector</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465580) due by 11:59pm (1 student)</p> <hr/> <p> <u>Lab 4: Programming the Arduino</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465582) due by 11:59pm</p>	

Date	Details	Due
	(https://catcourses.ucmerced.edu/courses/33872/assignments/465582) (6 students)	
	 Lab 4: Programming the Arduino (https://catcourses.ucmerced.edu/courses/33872/assignments/465582) (1 student)	due by 3:30pm
Tue Mar 4, 2025	 Check your circuits understanding (https://catcourses.ucmerced.edu/courses/33872/assignments/484370)	due by 11:59pm
	 Do you know your midterm project? (https://catcourses.ucmerced.edu/courses/33872/assignments/484341)	due by 11:59pm
	 Midterm circuit and pseudo code (https://catcourses.ucmerced.edu/courses/33872/assignments/484389)	due by 11:59pm
	 Name a signal you can think of! (https://catcourses.ucmerced.edu/courses/33872/assignments/484349)	due by 11:59pm
	 Midterm project proposal (https://catcourses.ucmerced.edu/courses/33872/assignments/465587)	due by 11:59pm
Wed Mar 5, 2025	 Lab 3: Proximity detector (https://catcourses.ucmerced.edu/courses/33872/assignments/465588) (1 student)	due by 11:59pm
	 Lab 3: Proximity detector (https://catcourses.ucmerced.edu/courses/33872/assignments/465589) (2 students)	due by 11:59pm
Thu Mar 6, 2025	 Lab 4: Programming the Arduino (https://catcourses.ucmerced.edu/courses/33872/assignments/465582) (3 students)	due by 11:59pm
	 Midterm project proposal (https://catcourses.ucmerced.edu/courses/33872/assignments/465588) (1 student)	due by 11:59pm

Date	Details	Due
Tue Mar 11, 2025	<u>Midterm project milestone</u> https://catcourses.ucmerced.edu/courses/33872/assignments/465586 due by 3:30pm	
	<u>3/11 Circuits quiz</u> https://catcourses.ucmerced.edu/courses/33872/assignments/485391 due by 11:59pm	
Thu Mar 13, 2025	<u>Office hour times and extra help for midterm</u> https://catcourses.ucmerced.edu/courses/33872/assignments/485378 due by 11:59pm	
Fri Mar 14, 2025	<u>Midterm project milestone</u> https://catcourses.ucmerced.edu/courses/33872/assignments/465580 due by 11:59pm (3 students)	
Mon Mar 17, 2025	<u>Lab 3: Proximity detector</u> https://catcourses.ucmerced.edu/courses/33872/assignments/465581 due by 11:59pm (1 student)	
Tue Mar 18, 2025	<u>Midterm project proposal</u> https://catcourses.ucmerced.edu/courses/33872/assignments/465582 due by 11:59pm (1 student)	
Wed Mar 19, 2025	<u>Midterm project milestone</u> https://catcourses.ucmerced.edu/courses/33872/assignments/465583 due by 11:59pm (2 students)	
Sat Mar 22, 2025	<u>Lab 3: Proximity detector</u> https://catcourses.ucmerced.edu/courses/33872/assignments/465584 due by 11:59pm (1 student)	

Date	Details	Due
	Midterm project milestone (https://catcourses.ucmerced.edu/courses/33872/assignments/465580) due by 11:59pm (1 student)	
	Midterm project proposal (https://catcourses.ucmerced.edu/courses/33872/assignments/465581) due by 11:59pm (1 student)	
Mon Mar 24, 2025	Lab 3: Proximity detector (https://catcourses.ucmerced.edu/courses/33872/assignments/465583) due by 11:59pm (2 students)	
Tue Mar 25, 2025	Lab 4: Programming the Arduino (https://catcourses.ucmerced.edu/courses/33872/assignments/465582) due by 11:59pm (2 students)	
	Lab 5: Signals (https://catcourses.ucmerced.edu/courses/33872/assignments/465583) due by 3:30pm	
Tue Apr 1, 2025	Midterm project milestone (https://catcourses.ucmerced.edu/courses/33872/assignments/465580) due by 11:59pm (7 students)	
	Midterm project demonstration (https://catcourses.ucmerced.edu/courses/33872/assignments/465585) due by 11:59pm	
Thu Apr 3, 2025	Lab 5: Signals (https://catcourses.ucmerced.edu/courses/33872/assignments/465580) due by 11:59pm (8 students)	
Fri Apr 4, 2025	Lab 4: Programming the Arduino (https://catcourses.ucmerced.edu/courses/33872/assignments/465582) due by 11:59pm (1 student)	
Tue Apr 8, 2025	Car specifications (https://catcourses.ucmerced.edu/courses/33872/assignments/488105) due by 11:59pm	
	Lab 5: Signals (https://catcourses.ucmerced.edu/courses/33872/assignments/465583) due by 11:59pm (12 students)	

Date	Details	Due
	 <u>Next steps: Lab 6</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/488106) due by 11:59pm	
	 <u>Practice voltage divider (in-class worksheet)</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/488608) due by 11:59pm	
Thu Apr 10, 2025	 <u>Lab 5: Signals</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465580) due by 11:59pm (1 student)	
	 <u>Lab 6: Actuators</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465584) due by 3:30pm	
	 <u>Current outputs from the Arduino</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/488864) due by 11:59pm	
Tue Apr 15, 2025	 <u>Lab 5: Signals</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465580) due by 11:59pm (5 students)	
	 <u>Team formation survey</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465578) due by 11:59pm	
	 <u>Understanding transistor-based control of a motor</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/488867) due by 11:59pm	
Thu Apr 17, 2025	 <u>Lab 6: Actuators</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465580) due by 11:59pm (3 students)	
	 <u>Lab 5: Signals</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465580) due by 11:59pm (1 student)	
Fri Apr 18, 2025	 <u>Lab 6: Actuators</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465580) due by 11:59pm (20 students)	

Date	Details	Due
Sat Apr 19, 2025	<p> <u>Lab 6: Actuators</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/489963) due by 11:59pm (1 student)</p> <hr/> <p> <u>IR logic for line follower</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/489963) due by 11:59pm</p> <hr/> <p> <u>Lab 6: Actuators</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/489963) due by 11:59pm (1 student)</p> <hr/> <p> <u>Line follower logic</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/489962) due by 11:59pm</p>	
Tue Apr 22, 2025	<p> <u>Milestone 1 (individual): Robotics "hello world"</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/488916) due by 11:59pm</p> <hr/> <p> <u>When is your team meeting this week?</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/489970) due by 11:59pm</p> <hr/> <p> <u>Milestone 1 (group): Robotics "hello world"</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465588) due by 11:59pm</p>	
Thu Apr 24, 2025	<p> <u>Lab 4: Programming the Arduino</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465582) due by 11:59pm (1 student)</p> <hr/> <p> <u>Lab 6: Actuators</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/489963) due by 11:59pm (3 students)</p>	
Tue Apr 29, 2025	<p> <u>Milestone 2 (group): Robot control algorithm</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465589) due by 3:30pm (final_group 17)</p> <hr/> <p> <u>Milestone 2 (group): Robot control algorithm</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465589) due by 3:30pm</p>	

Date	Details	Due
	 <u>Milestone 2 (individual): Robot control algorithm</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/489888) due by 3:30pm	
	 <u>Lab 5: Signals</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465580) due by 11:59pm (3 students)	
	 <u>Lab 6: Actuators</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465580) due by 11:59pm (5 students)	
	 <u>Milestone 1 (group): Robotics "hello world"</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465588) due by 11:59pm (4 students)	
	 <u>Milestone 1 (group): Robotics "hello world"</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465588) due by 11:59pm (12 students)	
	 <u>Milestone 1 (individual): Robotics "hello world"</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/488916) due by 11:59pm (4 students)	
	 <u>Team meetings for Week of Apr 28</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/490700) due by 11:59pm	
Wed Apr 30, 2025	 <u>Milestone 1 (group): Robotics "hello world"</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465588) due by 11:59pm (final_group 13)	
Thu May 1, 2025	 <u>Milestone 2 (group): Robot control algorithm</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465589) due by 11:59pm (final_group 9)	
	 <u>Milestone 2 (group): Robot control algorithm</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465589) due by 11:59pm (final_group 15)	

Date	Details	Due
	<p> <u>Milestone 2 (group): Robot control algorithm</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465589) (final_group 14)</p>	due by 11:59pm
	<p> <u>Milestone 2 (group): Robot control algorithm</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465589) (final_group 4)</p>	due by 11:59pm
	<p> <u>Milestone 2 (group): Robot control algorithm</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465589) (final_group 6)</p>	due by 11:59pm
	<p> <u>Milestone 2 (group): Robot control algorithm</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465589) (final_group 10)</p>	due by 11:59pm
	<p> <u>Milestone 2 (group): Robot control algorithm</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465589) (final_group 16)</p>	due by 11:59pm
	<p> <u>Milestone 2 (group): Robot control algorithm</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465589) (final_group 8)</p>	due by 11:59pm
	<p> <u>Milestone 2 (group): Robot control algorithm</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465589) (final_group 13)</p>	due by 11:59pm
	<p> <u>Milestone 2 (group): Robot control algorithm</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465589) (final_group 3)</p>	due by 11:59pm
	<p> <u>Milestone 2 (individual): Robot control algorithm</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/489888) (9 students)</p>	due by 11:59pm

Date	Details	Due
	 <u>Milestone 2 (individual): Robot control algorithm</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/489888) (1 student)	due by 11:59pm
	 <u>Course Evaluation (confirmation that you completed)</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/490702)	due by 11:59pm
Fri May 9, 2025	 <u>Lab 5: Signals</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465580) (2 students)	due by 11:59pm
	 <u>Lab 6: Actuators</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465581) (2 students)	due by 11:59pm
	 <u>Milestone 2 (group): Robot control algorithm</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465589) (2 students)	due by 11:59pm
Mon May 12, 2025	 <u>Final demonstration</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465579)	due by 11:59pm
	 <u>Lab 5: Signals</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465580) (1 student)	due by 11:59pm
	 <u>Technical presentations (individual submission)</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465591)	due by 11:59pm
Tue May 13, 2025	 <u>Lab 4: Programming the Arduino</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465582) (1 student)	due by 11:59pm
	 <u>Lab 5: Signals</u> (https://catcourses.ucmerced.edu/courses/33872/assignments/465580) (1 student)	due by 11:59pm

Date	Details	Due
	 <u>Lab 6: Actuators</u> https://catcourses.ucmerced.edu/courses/33872/assignments/465580 due by 11:59pm (1 student)	
Fri May 16, 2025	 <u>Post-course survey</u> https://catcourses.ucmerced.edu/courses/33872/assignments/465576 due by 11:59pm	
	 <u>Lab 4: Programming the Arduino</u> https://catcourses.ucmerced.edu/courses/33872/assignments/465582 due by 11:59pm (1 student)	
Sun May 18, 2025	 <u>Lab 5: Signals</u> https://catcourses.ucmerced.edu/courses/33872/assignments/465580 due by 11:59pm (1 student)	
	 <u>Lab 6: Actuators</u> https://catcourses.ucmerced.edu/courses/33872/assignments/465580 due by 11:59pm (1 student)	
Mon May 19, 2025	 <u>Lab 4: Programming the Arduino</u> https://catcourses.ucmerced.edu/courses/33872/assignments/465582 due by 11:59pm (1 student)	