

INTRO

OPS Roadmap

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SECTION I

Meet the Officers!

OPS Leadership



Sahil
OPS Lead Instructor



Timothy
OPS Lead Instructor



Zicong
OPS Lab Supervisor

OPS Instructors

- All your instructors are at the front!
- Everyone stand up and introduce yourself :)

SECTION II

Icebreaker

Talk to your Neighbors!

- **Name, year, major, fun fact**
- Some more ideas for conversation:
 - Where is your dream travel destination?
 - Where are you originally from?
 - Favorite cuisine
 - Least favorite school subject

SECTION III

IEEE Overview

IEEE@UCI

Who are we?

We are a student branch of the global IEEE, a professional organization with a mission to advance technology for humanity.

Where?

- Our lab is in ICS 225

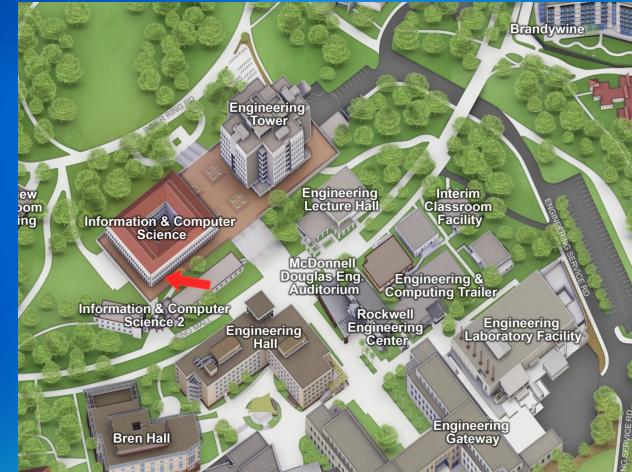
What do we offer?

- Technical Workshops
- Professional Networking
- Micromouse
- Open Project Space



The IEEE Room

- **Where?**
 - ICS 225
 - Giant Post-it "IEEE" on the window
 - You can also find us on Google Maps as "IEEE Student Branch at UCI"
- **When is it open?**
 - Check [# the-lab](#)
- **What do we have?**
 - 3D printers
 - Soldering Stations
 - Textbook Library
 - Study space
 - Lab Equipment



[Click here for directions](#)

Tentative Fall 2025 Events

Technical Workshops:

- VLSI Workshop
- IoT Workshop
- Soldering Workshop
- Keyboard Workshop

Professional Development:

- Rohde and Schwarz Info Session 10/14

Tours:

- UCI Nuclear Reactor
- UCI INRF Clean Rooms

OPS Socials:

- Hot Coco
- T-Shirt Design

SECTION IV

OPS Course Overview

Lectures and Workshops

- **Lectures**
 - **Hosted every two weeks**
 - Introduce topics that will be reinforced by the projects
 - Are recorded, and slides are posted on the website
- **Workshops**
 - Workshops are **interactive activities** to help you complete part of the project
 - Only some workshops are recorded but slides are always posted
 - First workshops are next week (week 4)

Lab Sessions

- Get **one-on-one support** to complete projects
- Weekly lab sessions at the IEEE Room (ICS 225)
 - Hosted by **Lab Supervisor** and **Lab Instructors**
 - **Start Week 3 (this week!)**
 - Hours posted on Canvas
- **No appointment required**



Canvas

- **Weekly Announcements**
 - Upcoming Projects, Lectures, and Workshops
 - Important Deadlines
- **Assignment Submissions**
 - Deliverables for projects are described on the assignment Canvas page as well as on the project specifications page
- **Lecture, Workshop, and Lab Schedule**
 - See the entire schedule for the active Quarter



Canvas

2024-25 Academic Year

| Home

Announcements

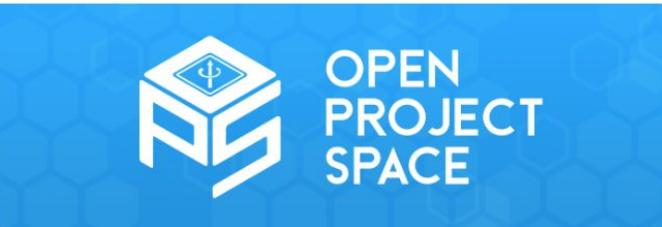
Assignments

Modules

Syllabus

People

Open Project Space - 2024-2025



[Syllabus](#)

[Schedule](#)

[Modules](#)

Contact Us

Name	Email	Discord Tag
Lead Instructor		

- [View Course Stream](#)
- [View Course Calendar](#)
- [View Course Notifications](#)

To Do

- [Welcome to Open Project Space!](#) X

Open Project Space - 2024-2025
Oct 16 at 8:32am
- [Project 1: LED There Be Light](#) X

Open Project Space - 2024-2025
1 points | Nov 1 at 11:59pm
- [Project 2: 555 Piano](#) X

Open Project Space - 2024-2025
1 points | Nov 15 at 11:59pm
- [Project 3: RGB LED Wizard](#) X

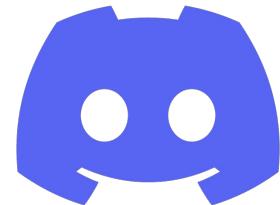
Open Project Space - 2024-2025
1 points | Nov 29 at 11:59pm
- [Project 4: SunDial](#) X

Open Project Space - 2024-2025
1 points | Dec 13 at 11:59pm

Discord

- **General Channel**
 - **#ops-general**
 - Channel where you can chat and ask general questions
 - Feel free to introduce yourself here!

- **Project-Specific Questions**
 - **#ops-help**
 - Create posts and ask questions for project help here!
 - Include images, code snippets, and whatever else to thoroughly explain the issue



Website

- Visit the website at ieee.ics.uci.edu/ops (bookmark it now!)

Overview:

- **Course Syllabus**
 - You can use this as an overview of the full curriculum
- **Lectures and Workshops**
 - The slides and video recordings of lectures and workshops (when available) are posted on the site
- **Project Specifications**
 - Each project specification is made available at the start of the next assignment
 - The pages include links and hoverables to aid your project work

Website



Home FAQ Syllabus Projects Lectures Workshops

[Apply Now](#)



Learn.
Build.
Network.

We're a student-led **embedded electronics** course for **beginners**.

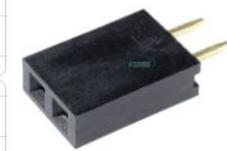
[Visit the Website](#)

What's in my Kit?

- **Parts**
 - [Refer to the syllabus](#) for the **full list of parts** in your kit
 - Use the project specifications page to look for parts (hover your mouse over a part)
 - There may be more parts than the quantity listed in the syllabus
 - Missing a part, or a parts no longer working? Please visit the IEEE Room for a replacement
- **Nametag**
 - Flip the lid of your kit, and **write your contact info** down (in case you misplace the kit)

Parts

Part Name	Qty
Jumper Wire	?
Breadboard	1
Battery, 9V	
9V Snap Connector	
Header, 2.54mm, Female, 1x2	
LED, 2V	
Slide Switch	
Resistor, 2Ω	1
Perfboard	1



OPS Student Groups

- Each one of you have been assigned a OPS Lab Instructor!
- OPS students will be divided into 11 groups (11-12 students each)

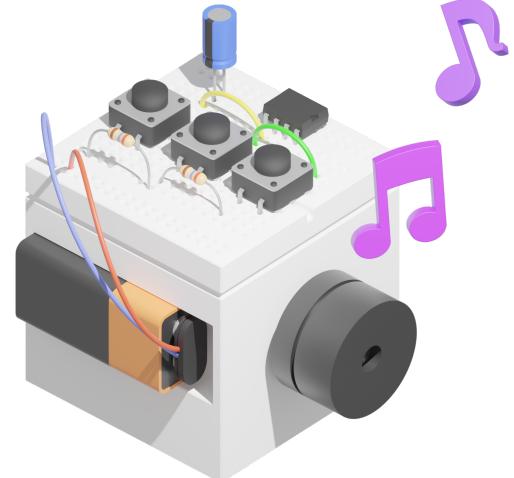
Your instructor will:

- Be your 1st point of contact & answer students' questions
- Help students in projects and the program

Student groups will be posted in threads on Discord!

Projects

- Projects are **released the same day as the lecture** (every two weeks)
- Deadlines are the night of the next lecture (11:59PM)
 - **Deadlines are recommendations** to keep pace with the course
- All projects within a quarter are due at the end of the quarter
 - (end of finals week)
- Your OPS membership is contingent upon the completion of Project 1

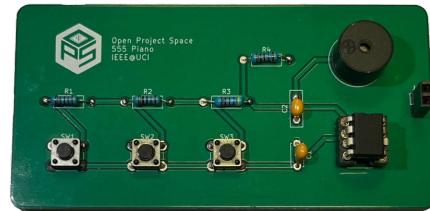


SECTION V

OPS Roadmap

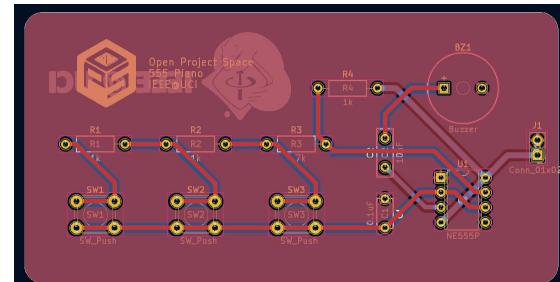
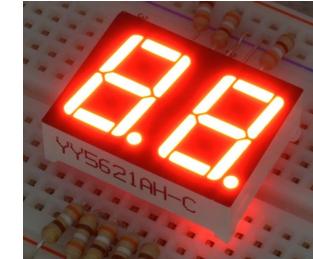
Fall Quarter Project

- **Project 1: LED there be Light**
 - Build an LED circuit with a switch and solder it to a perfboard.
- **Project 2: 555 Piano**
 - Create an electronic piano with the 555 Timer IC, and solder it to a printed circuit board.
- **Project 3: RGB LED Wizard**
 - Build and program a dimmable RGB LED using the ESP32 and potentiometers.
- **Project 4: Mini Trashcan**
 - Build a trashcan that opens automatically using an ultrasonic sensor



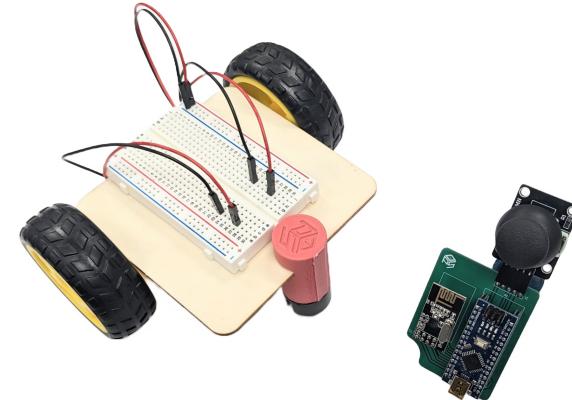
Winter Quarter Projects

- **Project 5: IPoduino**
 - Build an mp3 player and learn basic hardware communication.
- **Project 6: Weather Station**
 - Build a weather station that wirelessly transmits temperature and humidity data to an indoor display.
- **Project 7: 7-Segment Display Stopwatch**
 - Create a digital stopwatch using software interrupts and timer
- **Project 8: PCB Design With KiCad**
 - Design a PCB for the 555 Blinking LED or Piano.



Spring Quarter Projects

- **Capstone RC Rover**
 - Build and control an autonomous rover remotely with a custom PCB.
 - Any questions on any project?



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