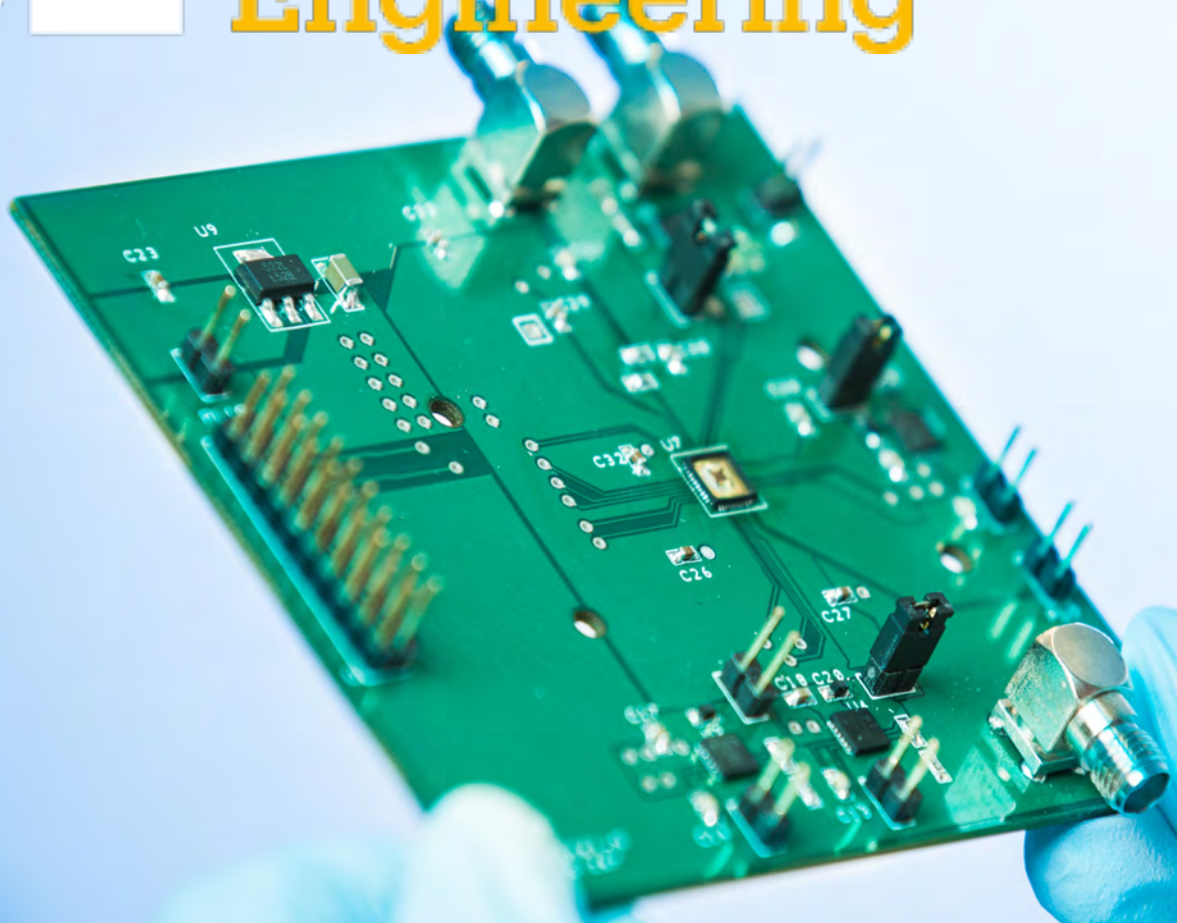
CE Computer Engineering



UCSB

Junior Meeting 2023-2024

WELCOME!

Senior Elective Requirements

- ✓ 12 Courses and 48 units minimum
- ✓ Capstone Project (CS version or ECE version)
- ✓ 2 Dept Approved Sequences
  - Cannot “double dip”
  - CMPSC 176A and CMPSC 171 or CMPSC 176A and CMPSC 176B, cannot use a course twice.
- ✓ 6 Approved Elective Courses of your choosing

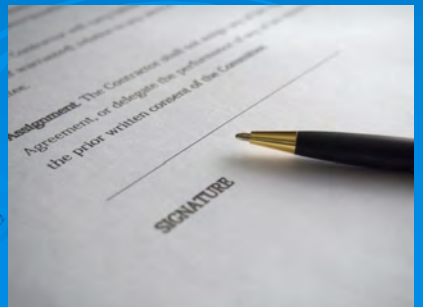
UCSB

Approval Process

- Discuss your senior elective plans with your faculty advisor and get course recommendations.
- Faculty Advisor must sign and approve your senior elective plans
- Email the signed form to ECE Student Office for final approval

Elective Sheets are Contracts

- You MUST complete the required number of courses.
- You do not have to list ALL electives you plan to take, just the required minimum.
- You are responsible for knowing the prerequisites of the courses.
- Run a progress report, don't forget to include completed & in progress electives.
- PLAN CAREFULLY!!



2023-2024 Computer Engineering Faculty Advisor Assignments

Last Name	Faculty Advisor	Faculty Email
A – C	https://www.ce.ucsb.edu/undergrad/current	
D – F	To be updated soon	
G – H		
I – K		
L – O		
P – S		
T – U		
V – Z		

CE SENIOR ELECTIVE FORM

Computer Engineering
CE Senior Electives
2016-2017 & Later

Computer Engineering Program · UC Santa Barbara

LAST NAME, FIRST NAME _____ Perm # _____

UCSB EMAIL _____ PHONE # _____

STUDENTS ARE RESPONSIBLE FOR DETERMINING AND TAKING THE NECESSARY PREREQUISITES FOR THE CLASSES LISTED BELOW AS THEY DO CHANGE. FOR THE MOST UP-TO-DATE INFORMATION, CHECK WITH THE COMPUTER SCIENCE STUDENT OFFICE FOR CS COURSES AND THE ECE STUDENT OFFICE FOR ECE COURSES.

COURSE – Include all completed electives	UNITS
"Capstone" Project (ECE189A/B/C or CS 189A/B)	
Sequence 1 (2 courses min.)	
Sequence 2 (2 courses min.)	
Other Electives	
MIN. REQUIRED	48
TOTAL UNITS:	

Total Units: A minimum total of at least twelve courses (48 units) including two sequences plus a Capstone Project.
Include all completed CE senior electives.

Student's Signature _____ Date _____

Faculty Advisor's Signature _____ Date _____

ECE Student Office _____ Date _____

10/13/21

Check Here	Sequence Topics	Senior Elective Sequences (choose 2)
	Computer Networks	• CMPSC 176A (Intro to Comp Communication Networks) **AND** • CMPSC 176B (Network Computing)
	Computer Systems Design	• ECE 153A **OR** CMPSC 153A (Hardware/Software Interface) **AND** • ECE 153B (Sensor and Peripheral Interface Design)
	Distributed Systems	• CMPSC 171: Distributed Systems ***AND ONE OR BOTH OF THE FOLLOWING COURSES:*** • CMPSC 176A: Intro. to Computer Networks • CMPSC 176B: Network Computing
	Multimedia	***Choose TWO OR MORE of the following courses:*** • ECE 178 (Fundamentals of Computer Image Processing) • ECE 181 **OR** CMPSC 181 (Introduction to Computer Vision) • ECE 160 (Multimedia Computing)
	Programming Languages	• *CMPSC 160 (Translation of Programming Languages) • *CMPSC 162 (Programming Languages) **(*Note: CMPSC 138, a Junior year course, is the prerequisite for both CMPSC 160 & 162)**
	Real-Time Computing & Control	• *ECE 147A (Feedback Control Systems - Theory and Design, **5 units**) **(*Note: ECE 147A prerequisite is ECE 130AB – Junior year)** • ECE 147B (Digital Control Systems - Theory and Design, **5 units**)
	Very Large Scale Integration (VLSI)	• ECE 122A (VLSI Principles) **OR** ECE 123 (High-Performance Digital Circuit Design) • ECE 122B (VLSI Architecture and Design)
	Robotics	• ECE 179D (Introduction to Robotics: Dynamics and Control) • ECE 179P (Introduction to Robotics: Planning and Kinematics)
)	**Signals & Systems**	• ECE 130A (Signal Analysis & Processing) • ECE 130B (Signal Analysis & Processing)
	Design & Test Automation	• ECE 157A (Machine Learning in Design and Test Automation) • ECE 157B (Artificial Intelligence in Design and Test Automation)
	Machine Learning	• CMPSC 165A (Artificial Intelligence) • CMPSC 165B (Machine Learning)
	Systems Software Architecture	• CMPSC 170 (Operating Systems) • CMPSC 171 (Distributed Systems)

Required Senior "Capstone" Computer Systems Project				
12 Units	***ECE 189A/B/C** (3 qtr. course, 4 units/qtr., 12 units) **(*Note: ECE 153B, Sensor & Peripheral Interface Design, is a prerequisite for ECE 189A/B/C)**	**OR**	***CMPSC 189A/B** (2 qtr. course, 4 units/qtr., 8 units) **(*Note: CMPSC 156, Advanced Applications Programming, is a prerequisite course CMPSC189A/B)**	**8 Units**

Acceptable Additional Courses			
CMPSC 130B (Data Structures and Algorithms II)	4	ECE 130C (Signal Analysis and Processing)	4
CMPSC 138 (Automata and Formal Languages)	4	ECE 147A (Feedback Control Sys-Theory & Design)	5
CMPSC 160 (Translation of Programming Languages)	4	ECE 147B (Digital Control-Theory & Design)	5
CMPSC 162 (Programming Languages)	4	ECE 149 (Game Theory)	4
CMPSC 165A (Artificial Intelligence)	4	ECE 150 (Mobile Embedded Systems)	4
CMPSC 165B (Machine Learning)	4	ECE 153A/CMPSC 153A (Hardware/Software Interface)	4
CMPSC 170 (Operating Systems)	4	ECE 153B (Sensor and Peripheral Interface Design)	4
CMPSC 171 (Distributed Systems)	4	ECE 154B (Advanced Computer Architecture)	4
CMPSC 174A (Fundamentals of Database Systems)	4	ECE 157A (Machine Learning in Design & Test Automation)	4
CMPSC 176A (Intro to Comp Communication Networks)	4	ECE 157B (A.I. in Design &Test Automation)	4
CMPSC 176B (Network Computing)	4	ECE 160 (Multimedia Computing)	4
CMPSC 176C (Advanced Topics in Internet Computing)	4	ECE 178 (Fund. of Computer Image Processing)	4
CMPSC 177 (Computer Security)	4	ECE 179D (Intro to Robotics: Dynamics & Control)	4
CMPSC 178 (Introduction to Cryptography)	4	ECE 179P (Intro to Robotics: Planning & Kinematics)	4
ECE 122A (VLSI Principles)	4	ECE 180 (Introduction to Deep Learning)	4
ECE 122B (VLSI Architecture and Design)	4	ECE 181/CMPSC 181 (Introduction to Computer Vision)	4
ECE 123 (High-Performance Digital Circuit Design)	4	ECE 194AA-194ZZ (except ECE 194R) (Special Topics in ECE)	4
ECE 130A (Signal Analysis and Processing)	4		
ECE 130B (Signal Analysis and Processing)	4	CMPSC 156 (Advanced Applications Programming)	4

10/13/21

Capstone Prerequisite Courses – Important, Take Note!

If you are interested in CS189, complete **both** capstone prerequisites. Why? CS189 has a limited number of spaces. Without **both** prerequisites completed an additional year could be required to graduate if only CS 156 is completed and you are unable to obtain a spot in CS 189.

- ECE 189A- CE Capstone prerequisite: ECE 153B (Sensor & Peripheral Interface Design) – Winter 2024 or Spring 2024 (prereq. is ECE 152A w/min. grade of C-). Enroll Pass 1 or Pass 2 for W24

- CS 189A - CS Capstone prerequisite: CS 156 (Advanced Applications Programming) – (prereqs. – CS 24 & CS 32 with grade of C or better)

CE Senior Elective Summary

- Capstone Project: ECE 189ABC, 12 units;

or

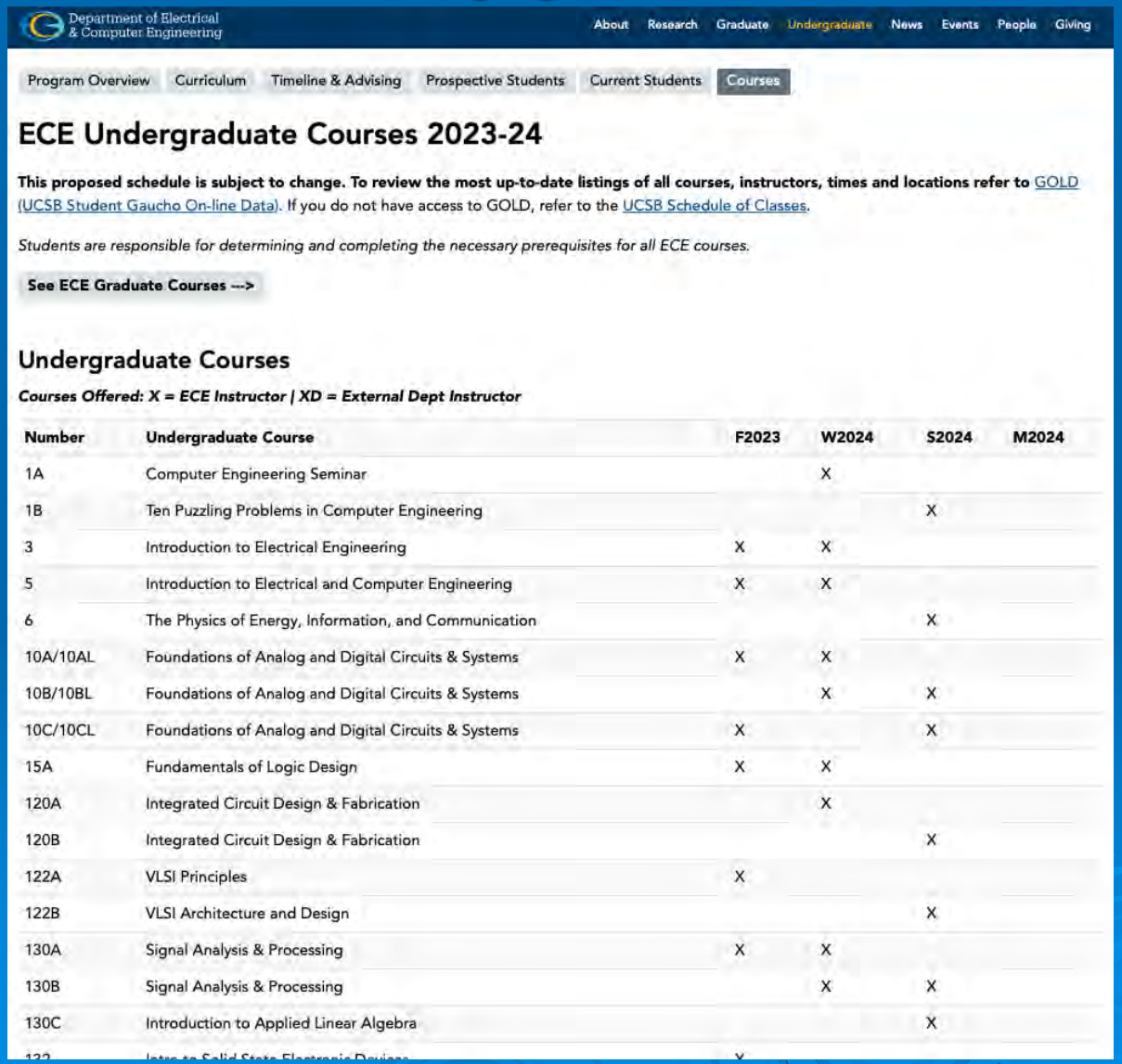
- CS 189AB, 8 units

- 12 courses
- 48 units
- Capstone
- Two (2) sequences
- 5-6 single electives

- Include your completed electives! Run quarterly progress report

Elective Course Scheduling Resources

ECE course scheduling, go to ece.ucsb.edu



Department of Electrical & Computer Engineering

About | Research | Graduate | Undergraduate | News | Events | People | Giving

Program Overview | Curriculum | Timeline & Advising | Prospective Students | Current Students | Courses

ECE Undergraduate Courses 2023-24

This proposed schedule is subject to change. To review the most up-to-date listings of all courses, instructors, times and locations refer to GOLD (UCSB Student Gaucho On-line Data). If you do not have access to GOLD, refer to the UCSB Schedule of Classes.

Students are responsible for determining and completing the necessary prerequisites for all ECE courses.

See ECE Graduate Courses --->

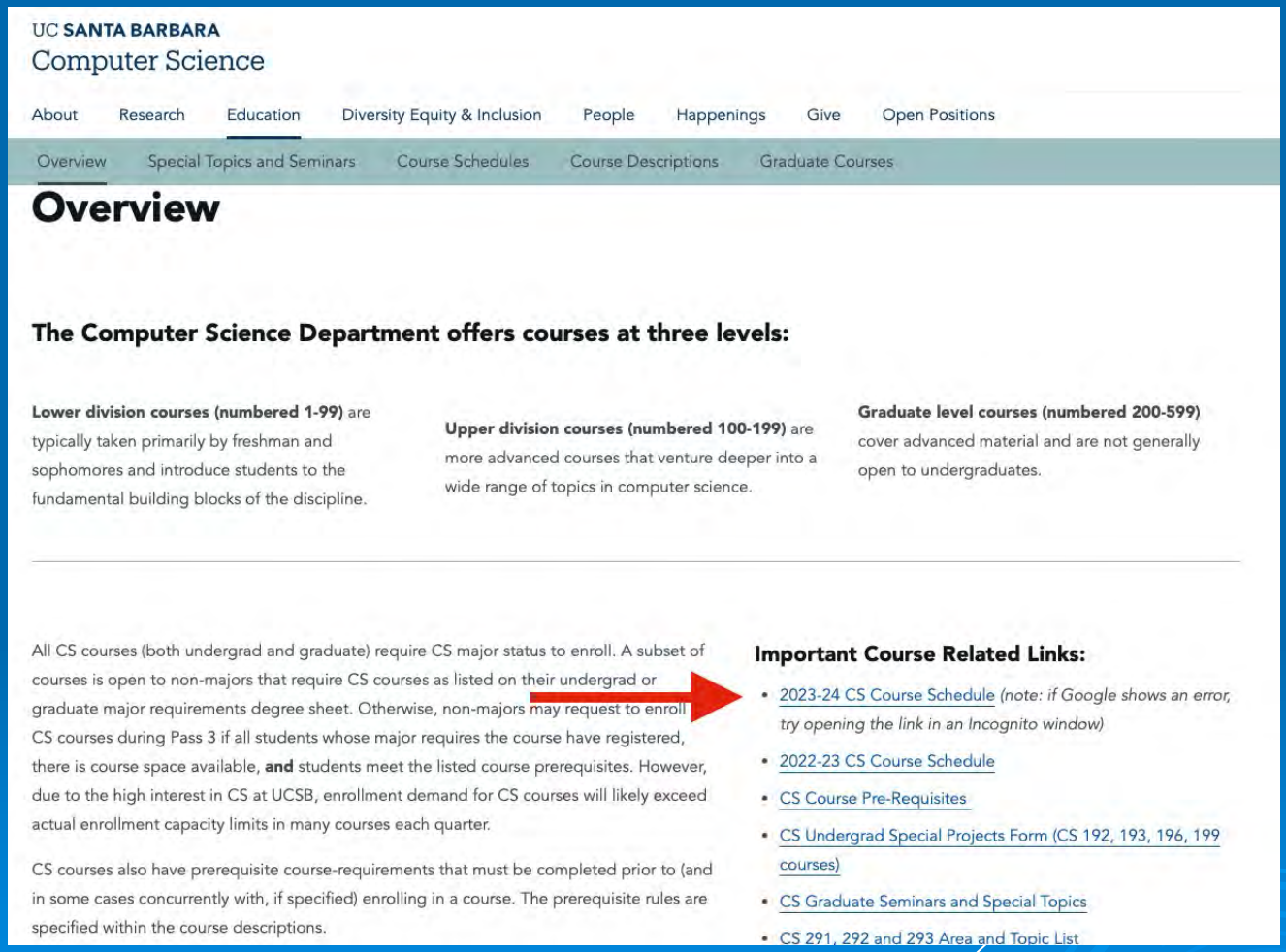
Undergraduate Courses

Courses Offered: X = ECE Instructor | XD = External Dept Instructor

Number	Undergraduate Course	F2023	W2024	S2024	M2024
1A	Computer Engineering Seminar		X		
1B	Ten Puzzling Problems in Computer Engineering			X	
3	Introduction to Electrical Engineering	X	X		
5	Introduction to Electrical and Computer Engineering	X	X		
6	The Physics of Energy, Information, and Communication			X	
10A/10AL	Foundations of Analog and Digital Circuits & Systems	X	X		
10B/10BL	Foundations of Analog and Digital Circuits & Systems		X	X	
10C/10CL	Foundations of Analog and Digital Circuits & Systems	X		X	
15A	Fundamentals of Logic Design	X	X		
120A	Integrated Circuit Design & Fabrication		X		
120B	Integrated Circuit Design & Fabrication			X	
122A	VLSI Principles	X			
122B	VLSI Architecture and Design			X	
130A	Signal Analysis & Processing	X	X		
130B	Signal Analysis & Processing		X	X	
130C	Introduction to Applied Linear Algebra			X	
132	Intro to Solid State Electronic Devices	X			

ece.ucsb.edu/undergrad/curriculum

Elective Scheduling
Computer Science Courses



UC **SANTA BARBARA**
Computer Science

About | Research | Education | Diversity Equity & Inclusion | People | Happenings | Give | Open Positions

Overview | Special Topics and Seminars | Course Schedules | Course Descriptions | Graduate Courses

Overview

The Computer Science Department offers courses at three levels:

Lower division courses (numbered 1-99) are typically taken primarily by freshman and sophomores and introduce students to the fundamental building blocks of the discipline.

Upper division courses (numbered 100-199) are more advanced courses that venture deeper into a wide range of topics in computer science.

Graduate level courses (numbered 200-599) cover advanced material and are not generally open to undergraduates.

All CS courses (both undergrad and graduate) require CS major status to enroll. A subset of courses is open to non-majors that require CS courses as listed on their undergrad or graduate major requirements degree sheet. Otherwise, non-majors may request to enroll CS courses during Pass 3 if all students whose major requires the course have registered, there is course space available, **and** students meet the listed course prerequisites. However, due to the high interest in CS at UCSB, enrollment demand for CS courses will likely exceed actual enrollment capacity limits in many courses each quarter.

CS courses also have prerequisite course-requirements that must be completed prior to (and in some cases concurrently with, if specified) enrolling in a course. The prerequisite rules are specified within the course descriptions.

Important Course Related Links:

- 2023-24 CS Course Schedule *(note: if Google shows an error, try opening the link in an Incognito window)*
- 2022-23 CS Course Schedule
- CS Course Pre-Requisites
- CS Undergrad Special Projects Form (CS 192, 193, 196, 199 courses)
- CS Graduate Seminars and Special Topics
- CS 291, 292 and 293 Area and Topic List

****NOTE: Students are responsible for checking the CS courses list regularly, it is subject to change.**

https://cs.ucsb.edu/education/courses/overview

CS 2023-2024 Tentative Course Schedule

https://cs.ucsb.edu/education/courses/overview

Check Frequently!

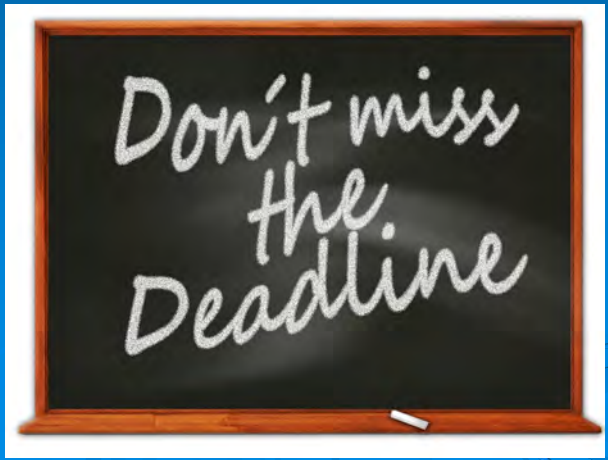
2023--2024 Instructor Schedule : Schedule-to post online

Proposed CS schedule below (including instructors, courses, and/or quarters offered) is subject to change

	Summer 2023	Fall 2023	Winter 2024	Spring 2024
CS8W	Moehlis, Jeff (A); Mirza, Diba (Bx2)	Kharitonova, Kate	Wang, Richert	Kharitonova, Kate
CS8		Kharitonova, Kate		
CS9	Wang, Richert (B)	Wang, Richert	Kharitonova, Kate	Kharitonova, Kate
CS16		Majedi, Maryam	Majedi, Maryam	Majedi, Maryam
CS16	Zhou, Enbo (C)		Burk, Kevin	
CS24	Boyland, Peter (C)	Mirza, Diba	Mirza, Diba	Burk, Kevin
CS24				
CS32		Burk, Kevin		Matni, Ziad
CS40		Matni, Ziad	Majedi, Maryam	Majedi, Maryam
CS64	Matni, Ziad (B)		Matni, Ziad	Sherwood, Tim
CS110		Matni, Ziad		
CS111		Gibou, Frederic	Matni, Ziad	Matni, Ziad
CS130A		Vigoda, Eric	Vigoda, Eric	Singh, Ambuj
CS130B		Suri, Subhash	Vigoda, Eric	Suri, Subhash
CS138	Boyland, Peter (C)	Ananth, Prabhanjan		Boyland, Peter
CS140			Yang, Tao	
CS148			Hollerer, Tobias	
CS154			Balkind, Jon	Balkind, Jon
CS156	Conrad, Phill (C)	Conrad, Phill	TBD	Conrad, Phill
CS160		Kruegel, Chris		Hardekopf, Ben
CS162			Feng, Yu	
CS165A			Beyeler, Michael	Yan, Xifeng
CS165B		Wang, Yu-Xiang	Chang, Shiyu	Wang, Yuan-Fang
CS170		Gupta, Trinabh	Wolski, Rich	Yang, Tao
CS171				
CS174A		Su, Jianwen		
CS174B				Su, Jianwen
CS176A			Gupta, Arpit	
CS176B				
CS176C				Belding, Elizabeth
CS177				Kruegel, Chris
CS178			Gupta, Trinabh	
CS180		Yan, Lingqi		
CS181		B.S. Manjunath (ECE)		
CS182				

DUE DATES

- Elective Sheets are due *no later than Friday, June 14, 2024!*
- Students who have not turned in an elective sheet will be placed on a **REGISTRATION BLOCK!**



UC SANTA BARBARA engineering

Progress Checks

- Can be run on GOLD using the degree audit system.
- GE/College level questions refer to the College of Engineering advisors, coe-info@engineering.ucsb.edu, or:
  - Frances Fouch francesf@engineering.ucsb.edu
  - Shariq Hashmi shashmi@engineering.ucsb.edu
  - Sarah Ocampo socampo@engineering.ucsb.edu
- Major level questions refer to the ECE Student Office to our inquiry form

CE Computer Engineering

BS/MS Programs

BS/MS options available for Computer Engineering undergraduates:

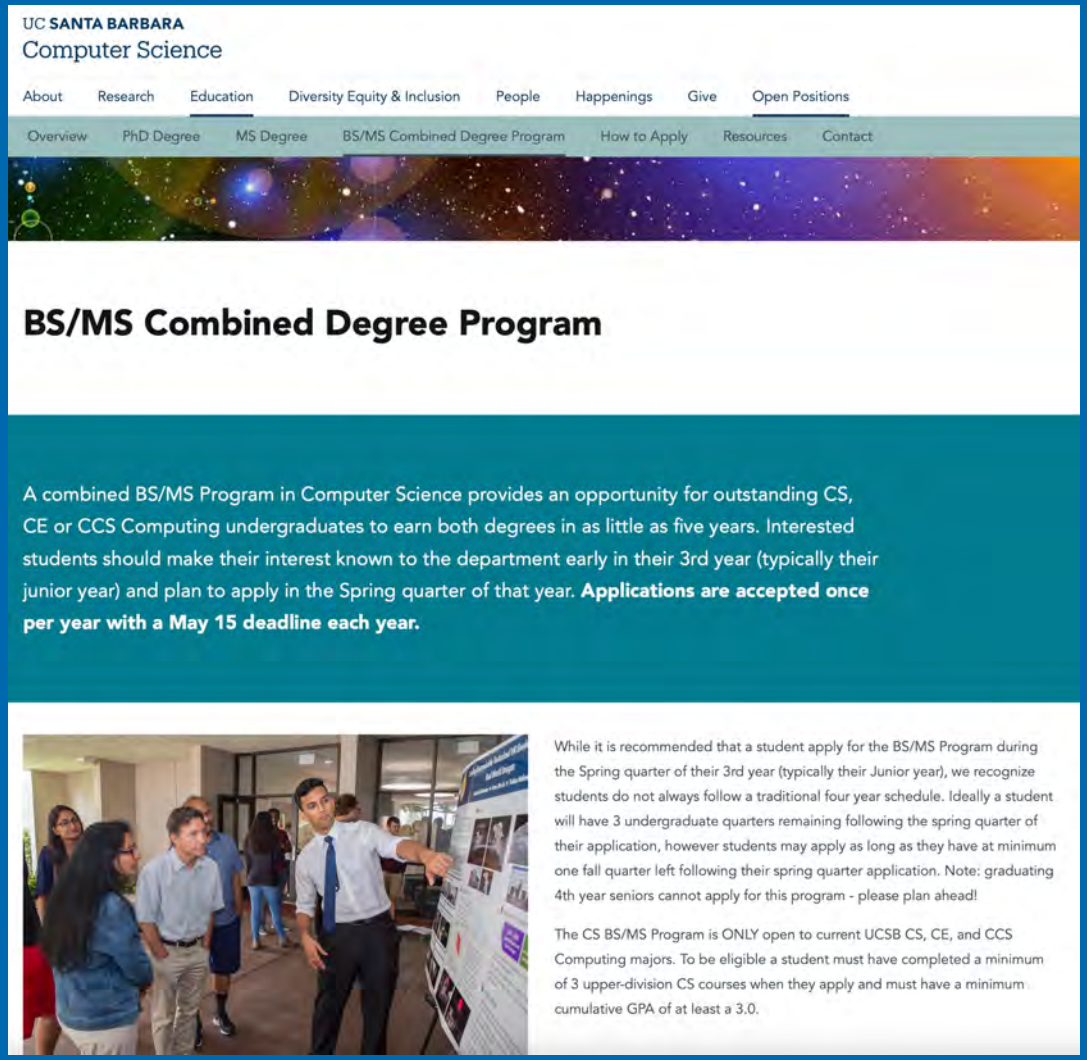
- BS in CE and MS in ECE.
  - Go to: https://www.ece.ucsb.edu/grad/bs-ms
- For Fall 2024 admission, the application deadline is June 14, 2024.
  - Applications for the BS/MS in ECE are due at the end of the spring quarter of the junior year. As this is an accelerated program, it is expected that all of the required courses for the CE major are completed including all of the junior required courses. GRE exams are not required to apply.
  - Contact the Graduate Admissions Coordinator for questions about applying to the BS/MS program: grad-admit@ece.ucsb.edu

CE Computer Engineering

BS/MS Programs

- BS in CE and MS in Computer Science: see the Computer Science website:

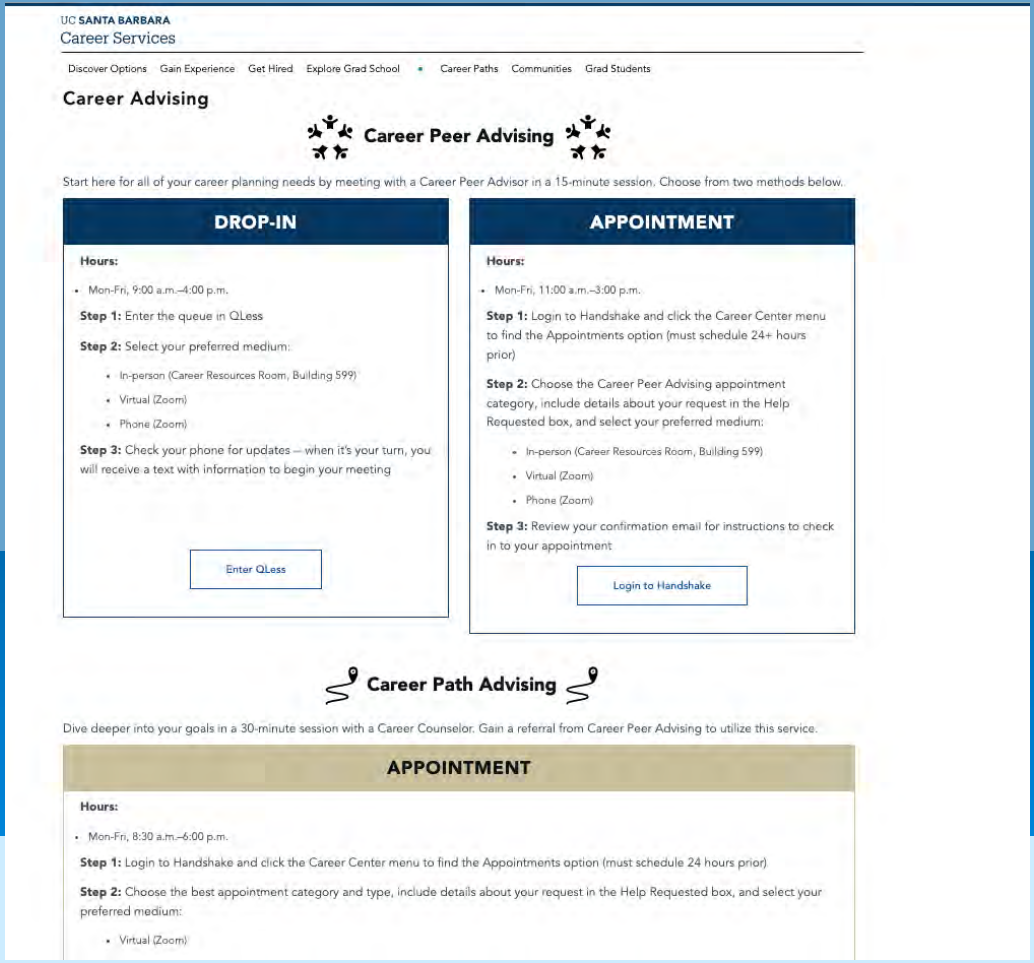
https://cs.ucsb.edu/education/graduate/bs-ms



Maddie W. Foster

Associate Director, Career Educaiton

Engineering + Technology



UC SANTA BARBARA
Career Services

Discover Options Gain Experience Get Hired Explore Grad School • Career Paths Communities Grad Students

Career Advising

Career Peer Advising

Start here for all of your career planning needs by meeting with a Career Peer Advisor in a 15-minute session. Choose from two methods below.

DROP-IN

Hours:

- Mon-Fri, 9:00 a.m.–4:00 p.m.

Step 1: Enter the queue in QLess

Step 2: Select your preferred medium:

- In-person (Career Resources Room, Building 599)
- Virtual (Zoom)
- Phone (Zoom)

Step 3: Check your phone for updates — when it's your turn, you will receive a text with information to begin your meeting

Enter QLess

APPOINTMENT

Hours:

- Mon-Fri, 11:00 a.m.–3:00 p.m.

Step 1: Login to Handshake and click the Career Center menu to find the Appointments option (must schedule 24+ hours prior)

Step 2: Choose the Career Peer Advising appointment category, include details about your request in the Help Requested box, and select your preferred medium:

- In-person (Career Resources Room, Building 599)
- Virtual (Zoom)
- Phone (Zoom)

Step 3: Review your confirmation email for instructions to check in to your appointment

Login to Handshake

Career Path Advising

Dive deeper into your goals in a 30-minute session with a Career Counselor. Gain a referral from Career Peer Advising to utilize this service.

APPOINTMENT

Hours:

- Mon-Fri, 8:30 a.m.–6:00 p.m.

Step 1: Login to Handshake and click the Career Center menu to find the Appointments option (must schedule 24 hours prior)

Step 2: Choose the best appointment category and type, include details about your request in the Help Requested box, and select your preferred medium:

- Virtual (Zoom)

Maddie.Foster@sa.ucsb.edu

career.ucsb.edu

UC SANTA BARBARA
Career Services

Discover Options | Gain Experience | Get Hired | Explore Grad School | Career Paths | Communities | Grad Students

Career Paths
Your Gaucho Paths to Success

Business + Entrepreneur | Communications + Arts | Education + Human Svcs | Engineering + Technology | Law + Government | Science + Health

Engineering + Technology

Get Your Gears Turning

How many engineering disciplines can you name?

UCSB educates students in five key areas: chemical engineering, mechanical engineering, electrical engineering, computer engineering, and computer science. However, there are over 50 other engineering disciplines to discover including aerospace, automotive, biochemical, civil, environmental, geotechnical, industrial, manufacturing, nanotechnology, nuclear, petroleum, security, telecommunications, and traffic engineering. All areas overlap with basic engineering knowledge and skills.

Learn how you can pursue your discipline or pivot your UCSB education into the area of your choice through a career path in Engineering + Technology.

Recent Postings

Click to view opportunities related to **Engineering + Technology** in Handshake. Customize your filters and learn how to search for UCSB career success!

Related Events >>
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Related Jobs & Internships >>
How to Search / Search Safely >>

https://career.ucsb.edu/

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Career Services

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Handshake Help Center

Handshake is the premium platform for Gauchos to find **jobs**, **internships**, and **career connections**. Ranging from part-time to full-time positions, on-campus and off-campus, Handshake is a gateway to gainful employment in the world of work. Many postings are viewable exclusively to students/alumni of UCSB, providing an edge to engage with employers. Handshake also offers approved Work-Study positions, a database of thousands of employers, and much more.

Looking to schedule an appointment via Handshake? Visit our Students page.

HANDSHAKE HELP CENTER

- GET ACCESS TO HANDSHAKE
- COMPLETE YOUR PROFILE
- UPDATE YOUR CAREER INTERESTS
- SEARCH THE PLATFORM
- PREPARE FOR VIRTUAL FAIRS

Get Access to Handshake

Who Has Access?

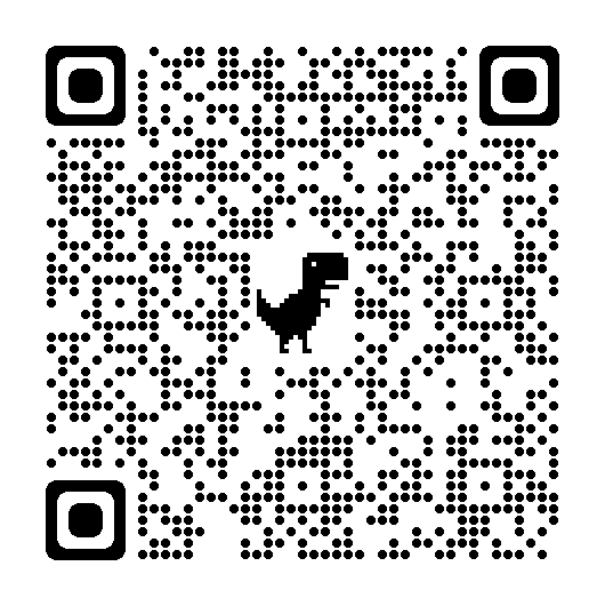
Access is available to all **registered students** with an active UCSB NetID and all **UCSB alumni**. For others looking to login to Handshake, visit our Handshake information for Alumni, Faculty and Staff, and Recruiters.

Special Note During COVID: UCSB students who take time off due to COVID can request access to Handshake for the first quarter of their time off. Inquiries can be directed to CareerHelp@sa.ucsb.edu.

https://career.ucsb.edu/handshake-help-center

Winter 2024
Career & Internship Fair
Science, Technology
& Engineering
Wed., January 24, 2024,
10am – 4pm, Corwin Pavilion
career.ucsb.edu

Mandatory - Sign in Below:



- Will let us know who is in attendance
- Give us feedback!

https://forms.gle/m1hSuwdXk4Xcc7z1A

UNIVERSITY OF CALIFORNIA SANTA BARBARA
ELECTRICAL AND COMPUTER ENGINEERING

QUESTIONS?

Beth English

ugrad-advisor@ece.ucsb.edu

or

Joanna Villalobos

undergrad@ece.ucsb.edu

Submit an inquiry below: