Computer Science & Engineering
Bachelor’s to Master’s Pathways

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Agenda

- Introduction to the CSE Pathways
- Where are our Master’s Alumni Now?
- CE BS/MS Pathway
- CSE Contiguous Pathway
- What to Consider Before Applying
- How to Apply
- Application Timeline & Requirements
- Questions?
Who We Are

A complete list of research areas in the CSE Department is available on the CSE website.
CSE Pathways…

- are “4+1 programs” that enable UCSC BSOE students to earn bachelor’s AND master’s degrees in as little as 5 years with appropriate planning
- waive the GRE requirement
- count qualified UCSC credits taken as an undergrad toward a master’s degree*
- provide students with opportunities to advance prior research or explore a new research area
- help students gain a competitive edge as industry leaders and researchers
- enable students to apply experience gained as a UCSC undergrad toward advancing career plans without “having to go back” later for a master’s or PhD.

*Each program has different criteria for counting courses taken as an undergraduate toward the MS degree. See the program’s catalog entry for more information.
Where are our Master’s Alumni?

Engineers @ Apple, Cisco, Google, HP, Microsoft, Oracle, Palantir, SRI, Uber & more!

Researchers, Analysts & Professors

Directors of Engineering @ Intel, LinkedIn, Splunk & more!

CEOs, CTOs & Founders
The Computer Engineering BS/MS Pathway
CE BS/MS Pathway: Eligibility

1. Must be working toward a bachelor of science degree in Computer Engineering, Computer Science, Electrical Engineering, or Robotics Engineering.

2. Enrolled in a bachelor’s program when formally applying with plans to enroll in the MS program the fall quarter immediately after completing undergrad requirements.

3. Must maintain a 3.0 GPA or higher until the completion of undergraduate requirements.

4. Must complete BOTH the CE BS/MS Pathway eligibility form AND the formal CE MS application.
CE BS/MS Pathway: Degree Requirements

CE MS Degree Requirements (48 or 50 units)*

• Base Requirements (completed as an undergrad)
• Core Requirements (13 units)
• Electives (35 units)
  ○ All other courses must be 5-unit grad-level BSOE courses
  ○ Half of all credits must be in Computer Engineering
• Capstone Requirements (2 units required for Project Track)
  ○ Project Track: for students seeking careers in industry
    ■ Required to take CSE 296 (2 credits)
  ○ Thesis Track: for students interested in academia
    ■ Can count 10 credits of CSE 299/297 toward 48 required units

*Degree requirements are subject to change pending approval from the Graduate Council. Please contact the CSE Graduate Student Advisor and refer to the UCSC General Catalog for any updates.
CE BS/MS Pathway: 
Core & Capstone Requirements*

**CE MS CORE REQUIREMENTS**

- **Research & Teaching**
  - (3 units)
- **Core Areas**
  - (10 units)
- **Capstone Requirements**
  - (2 units required only for Project Track)

**CSE 200**
- Taken in First Fall Quarter

- **Analysis of Algorithms**
  - CSE 201 - 5 units

- **Computer Architecture**
  - CSE 220 - 5 units

- **Thesis Capstone**
  - Up to 10 units of 299/297

- **Capstone Project**
  - CSE 296 - 2 units

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CE BS/MS Pathway: Maximizing the Pathway as an Undergrad*

Step 1
Ensure you complete Base Requirements
- Can also count toward bachelor's degree requirements
- Must pass each class

Review this worksheet with undergrad advising to ensure the courses don't conflict with requirements.

Step 2
Take up to 10 credits of graduate-level courses
- Can also count toward bachelor’s degree requirements
- Must earn B- or higher

To enroll in graduate level courses as an undergrad, request a permission code from the instructor.

Step 3
Take 1 more grad-level course ONLY for MS
- CANNOT count toward bachelor’s degree requirements
- Must earn B- or higher

To enroll in graduate level courses as an undergrad, request a permission code from the instructor.

A maximum of 3 grad-level classes taken as an undergraduate can be counted toward the MS degree as long as they meet the qualifications detailed above.

Please note that CE BS/MS Pathway students cannot apply undergraduate courses toward the MS degree.

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CE BS/MS Pathway: Grading Policy

- Letter grading is required for all courses applied toward CE MS degree except:
  - Up to 10 credits of the student’s choice
  - CSE 200 - Research & Teaching
  - CSE 296 - Master’s Project
  - CSE 297 - Individual Study
  - CSE 299 - Thesis Research
The Computer Science & Engineering
5-Year Contiguous Bachelor’s / Master’s Pathway
CSE Contiguous Pathway: Eligibility

1. Any UCSC School of Engineering undergraduate major may apply.

2. Enrolled in a bachelor’s program when formally applying with plans to enroll in the MS program the fall quarter immediately after completing undergrad requirements.

3. Must maintain a 3.0 GPA or higher until the completion of undergraduate requirements.

4. Must complete BOTH the CSE Pathway eligibility form AND the formal CSE MS application.
CSE Contiguous Pathway:
Degree Requirements

CSE MS Degree Requirements* (48 units)

• Core Requirements (13 units)

• Breadth Courses (15 units)
  ○ Three 5-unit courses from three different breadth categories

• Electives (15 units)
  ○ All other courses must be 5-unit grad-level BSOE courses. Please review the General Catalog for more information.

• Capstone Requirements (5 units)
  ○ Project Track required to take CSE 297 (5 credits)
  ○ Thesis Track required to take CSE 299 (5 credits) and may count additional 5 credits toward required 48 credits

*Degree requirements are subject to change pending approval from the Graduate Council. Please contact the CSE Graduate Student Advisor and refer to the UCSC General Catalog for any updates.
CSE Contiguous Pathway: Core Requirements

**Research & Teaching (3 units)**
- CSE 200
  - Taken in First Fall Quarter

**Select TWO Core Areas (10 units)**
- Analysis of Algorithms
  - CSE 201 - 5 units
- Programming Languages
  - CSE 210A - 5 units
- Computer Architecture
  - CSE 220 - 5 units

**Capstone Requirements (5 units)**
- Thesis Research
  - CSE 299 - 5 units
- Capstone Project
  - CSE 297 - 5 units

**CSE MS Core Requirements (18 units)**

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CSE Contiguous Pathway:
Optional Concentrations

Artificial Intelligence
Hardware Systems
Theoretical Computer Science
Software Systems

CSE MS ONLY: Learn more about concentrations here.
CSE MS AND CE MS: Learn more about designated emphases here.
CSE Contiguous Pathway:
Maximizing the Pathway as an Undergrad

**Option 1***
Count up to 13 credits of grad-level courses
- Can double-count grad courses toward bachelor’s degree
- Must be from CSE or SOE
- Must earn B- or higher

To enroll in graduate level courses as an undergrad, request a permission code from the instructor.

**Option 2***
Count up to 8 grad-level credits + 5 undergrad upper-division credits
- CSE upper-div can’t count toward bachelor’s degree
- SOE grad-level credits can be double-counted
- Must earn B- or higher

To enroll in graduate level courses as an undergrad, request a permission code from the instructor.

**Option 3***
Count up to 5 undergrad upper-division credits
- Can’t count toward bachelor’s requirements
- Must be a CSE course
- Must earn B- or higher

Check with your undergrad advisor that the courses you take won’t conflict with bachelor’s requirements.

*Please note you cannot combine these separate options. A maximum total of 13 credits taken as an undergraduate can be counted toward your master’s degree.*

*These options are subject to change pending approval from the Graduate Council. Please contact the CSE Graduate Student Advisor and refer to the UCSC General Catalog for any updates.
CSE Contiguous Pathway: Grading Policy

- Letter grades are required for **ALL** 5-unit courses applied toward the CSE MS degree with the exception of the following courses:
  - CSE 200 - Research & Teaching
  - CSE 297 - Individual Study
  - CSE 299 - Thesis Research
Tips for Applying

• Complete the Pathway eligibility forms at any time before the application deadline. Please notify CSE Advisors every academic year if you want us to continue tracking your eligibility.

• Apply formally to either program the Fall Quarter before you plan to graduate from a bachelor’s program. Cannot take a year off between programs.

• Get a head start on the 3 required letters of recommendation and prioritize letters from CSE faculty.

• Engage in undergraduate research and build rapport with CSE/ECE faculty.

• Utilize campus resources like the Career Center and writing support services to polish your resume, Statement of Purpose, and Personal History Statement.
How to Apply for the CE or CSE Pathway

Step One:
• Complete the eligibility form online for a Pathway:
  ○ [CE BS/MS Pathway online form](#)
  ○ [CSE Contiguous Pathway online form](#)
• If you are eligible, you will be added to the Pathway’s internal tracking database.
• You can complete this step at any time prior to the formal application deadline.

Step Two:
• Complete the [formal application](#) for the CE MS OR the CSE MS degree (only one per year).
• **Note:** Eligibility for a Pathway does not guarantee admission.
Application Timeline

- Fall 2021 applications opened on October 1st, 2020.
- The application deadline is January 11, 2021.
- GRE requirement waived for this application period.
- The formal application is online at:

  applygrad.ucsc.edu/apply/
Application Requirements

• 3 Letters of Recommendation

• Personal History Statement - typically a description of the skills, knowledge, and relevant experience you have acquired, and how you would contribute to the program and/or BSOE community.

• Statement of Purpose - typically a description of your short-term and long-term goals or career plan, and how a master’s degree at UCSC would help you reach these goals.

• Unofficial Transcripts

• TOEFL/IELTS waived for international students earning a bachelor’s degree at UCSC.

• See the BSOE Graduate Admissions FAQ for more detailed information: gradadmissions.ucsc.edu/
QUESTIONS?

More Information
at BSOE Graduate Advising

grad.soe.ucsc.edu