

# Electrical Engineering Career Readiness Map

## First Years (First -Sophomore Years)

- **EE 110 EE Clinic I**
  - What does an Electrical Engineer Do?
- **EE 120 and 210 EE Skills**
  - Fundamental EE Skills (Hands-On)
- **EE 280 Intro to Circuits**
  - Basic Circuit principles, laws, and analysis
- **CS 111 Intro to CS**
  - Fundamental Programming Skills
- **PHYS 201, 202, and 203**
  - Mechanics, Electricity, Magnetism, and Thermodynamics
- **MATH 160, 162, and 260**
  - Calculus

## Middle Years (Sophomore -Junior Years)

- **EE 303 Signals and Systems**
  - How Data is Filtered and Transmitted
- **EE 330 Electronic Circuits**
  - Advanced Circuits and Analysis
- **EE 310 Power**
  - Introduction to Power Electronics
- **EE 301 Digital Logic**
  - Digital Logic Circuits with FPGAs
- **EE 321 Electromagnetism**
  - Electric Fields and Analysis
- **EE 342 and MATH 346 Eng. Math**
  - Mathematical Models, Probability, and Statistics for Engineers

## Last Years (Junior-Senior Years)

- **EE 491A & B Capstone**
  - Practical Computer Engineering Project
- **EE 402 Microcontrollers**
  - Creating a System with Sensors and Actuators
- **EE 420 Control Systems**
  - Self Correcting and Stable Systems
- **EE 430 Very Large Scale Integration**
  - Making Microchips
- **EE 435 Communication**
  - Wireless Communication Concepts
- **Select EE/CE/CS/PHYS Electives**
  - Expand Your Skills

### Curricular activities (Inside the classroom)

### Co-curricular activities (Outside the classroom)

#### Student Organizations

- | Topics and Skills                                                                                                                                                                            | Institutions                                                                                                                                                                 | Societies                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• <a href="#">Artificial Intelligence Club</a></li> <li>• <a href="#">Amateur Radio Club</a></li> <li>• <a href="#">Cybersecurity Club</a></li> </ul> | <ul style="list-style-type: none"> <li>• <a href="#">New Energies Club</a></li> <li>• <a href="#">Tikkun Olam Makers</a></li> <li>• <a href="#">Robotics Club</a></li> </ul> | <ul style="list-style-type: none"> <li>• <a href="#">Association of Computer Machinery</a></li> <li>• <a href="#">Institute of Electrical and Electronic Engineers</a></li> <li>• <a href="#">National Society of Black Engineers</a></li> <li>• <a href="#">Society of Asian Scientists and Engineers</a></li> <li>• <a href="#">Society of Hispanic Professional Engineers</a></li> <li>• <a href="#">Society of Women Engineers</a></li> <li>• <a href="#">Women in STEM</a></li> </ul> |

#### Work Towards Your Career

- [Create your first resume](#)
- [Create a LinkedIn Profile](#)
- [Join a Club You are Interested In](#)
- [Join Professional Institutions and Societies](#)
- [Start a Project Portfolio](#)
- [Career Readiness Teams Channel](#)

#### Alumni Engagement Office

- [Network with CSUSM Alumni](#)
- [Attend Events](#)
- [Ask Alumni Questions](#)

#### Funding Opportunities

- [Summer Scholars - Research](#)
- [Student Success Grants](#)
- [CTREE, Scholarships, and More](#)

#### Innovation Hub

- [Makerspace](#)
- [Invention Help](#)
- [Workshops + Events](#)

#### Career Center

- [Handshake – Find a Job!](#)
- [Career Counseling](#)
- [Workshops and Events](#)

#### Professional Mentoring Program

- [One-on-one Mentoring](#)
- [Monthly Discussion Night Events](#)
- [Career Advice](#)