

ELECTRICAL ENGINEERING

MAJOR REQUIREMENTS

2018-19

ELECTRICAL AND COMPUTER ENGINEERING STUDENT AFFAIRS OFFICE | JACOBS HALL 2701 & 2702 | ECE.UCSD.EDU

- ▶ Students must **pick one Depth** to complete the EE Major requirements. Due to six different college requirements, only **major** requirements are listed below.
- ▶ Students must speak to their college advisor for questions regarding General Education and University of California requirements.
- ▶ ALL courses used to satisfy major requirements must be taken for a **letter grade and passed with a C– or better**.

ELECTRONIC CIRCUITS & SYSTEMS

Lower Division (72 units)

MATH 18, 20A, 20B, 20C, 20D, 20E

PHYS 2A, 2B, 2C, 2D

CHEM 6A

ECE 5, 15, 25, 30, 35, 45, 65

Upper Division (68 units)

Breadth:

ECE 100, 101, 102, 103, 107, 109

Depth:

ECE 164, 165, 166

Technical Electives:

five upper division engineering, math, or physics courses

Professional Electives:

two upper-division courses

Design:

one of ECE 111, 115, 140B, 190, or 191

ELECTRONIC DEVICES & MATERIALS

Lower Division (72 units)

MATH 18, 20A, 20B, 20C, 20D, 20E

PHYS 2A, 2B, 2C, 2D

CHEM 6A

ECE 5, 15, 25, 30, 35, 45, 65

Upper Division (68 units)

Breadth:

ECE 100, 101, 102, 103, 107, 109

Depth:

ECE 135A-B, 136L, 183

Technical Electives:

four upper-division engineering, math, or physics courses

Professional Electives:

two upper-division courses

Design:

one of ECE 111, 115, 140B, 190, or 191

PHOTONICS

Lower Division (72 units)

MATH 18, 20A, 20B, 20C, 20D, 20E

PHYS 2A, 2B, 2C, 2D

CHEM 6A

ECE 5, 15, 25, 30, 35, 45, 65

Upper Division (68 units)

Breadth:

ECE 100, 101, 103, 107, 109

Depth:

ECE 181, 182, 183 and either ECE 184 or 185

Technical Electives:

five upper-division engineering, math, or physics courses

Professional Electives:

two upper-division courses

Design:

one of ECE 111, 115, 140B, 190, or 191

ELECTRICAL ENGINEERING MAJOR REQUIREMENTS

2018-19

COMMUNICATION SYSTEMS

Lower Division (68 units)

**MATH 18, 20A, 20B, 20C, 20D,
and 20E**

PHYS 2A, 2B, 2C

CHEM 6A

ECE 5, 15, 25, 30, 35, 45, 65

Upper Division (72 units)

Breadth:

ECE 100, 101, 102, 107, 109

Depth:

ECE 153, 154A-B-C, 158A

Technical Electives:

five upper-division engineering, math, or physics courses

Professional Electives:

two upper-division courses

Design Course:

**one of ECE 111, 115, 140B,
190, or 191**

MACHINE LEARNING & CONTROLS

Lower Division (68 units)

**MATH 18, 20A, 20B, 20C, 20D,
and 20E**

PHYS 2A, 2B, 2C

CHEM 6A

ECE 5, 15, 25, 30, 35, 45, 65

Upper Division (72 units)

Breadth:

ECE 100, 101, 107, 109

Depth:

**ECE 171A, 174, 175A and one
of ECE 171B, 172A, or 175B**

Technical Electives:

seven upper-division engineering, math, or physics courses

Professional Electives:

two upper-division courses

Design:

**one of ECE 111, 115, 140B,
190, or 191**

SIGNAL & IMAGE PROCESSING

Lower Division (68 units)

**MATH 18, 20A, 20B, 20C, 20D,
and 20E**

PHYS 2A, 2B, 2C

CHEM 6A

ECE 5, 15, 25, 30, 35, 45, 65

Upper Division (72 units)

Breadth:

ECE 100, 101, 107, 109

Depth:

ECE 153, 161A-B-C

Technical Electives:

seven upper-division engineering, math, or physics courses

Professional Electives:

two upper-division courses

Design:

**one of ECE 111, 115, 140B,
190, or 191**

COMPUTER SYSTEM DESIGN

Lower Division (72 units)

**MATH 18, 20A, 20B, 20C, 20D,
and 20E**

PHYS 2A, 2B, 2C

CHEM 6A

**ECE 5, 15, 16, 25, 30, 35, 45,
and 65**

Upper division (68 units)

Breadth:

ECE 100, 101, 109

Depth:

**any five of ECE 102, 103, 111*,
140A-B, 141A-B, 143, 158A,
158B or 165**

Technical Electives:

**six upper-division engineering,
math, or physics courses**

Professional Electives:

two upper-division courses

Design:

**one of ECE 111*, 115, 140B,
190, or 191**

*ECE 111 MUST be taken as either a depth,
technical elective, or design course