

2019-2020 ELECTRICAL ENGINEERING MAJOR REQUIREMENTS

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 requirements.

ALL courses used to satisfy major requirements must be taken for **a letter grade and passed with a C- or better**.

ELECTRONIC CIRCUITS AND SYSTEMS

LOWER DIVISION COURSES [72 UNITS]

MATH 18, 20A-B-C-D-E
PHYS 2A-B-C-D
CHEM 6A
ECE 5, 15, 25, 30, 35, 45, 65

UPPER DIVISION COURSES [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 AND MATERIALS

Lower Division Courses [72 units]

MATH 18, 20A-B-C-D-E
PHYS 2A-B-C-D
CHEM 6A
ECE 5, 15, 25, 30, 35, 45, 65

Upper Division Courses [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 Courses [72 units]

MATH 18, 20A-B-C-D-E
PHYS 2A-B-C-D
CHEM 6A
ECE 5, 15, 25, 30, 35, 45, 65

Upper Division Courses [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

2019-2020 DEPTH REQUIREMENTS CONTINUED ON NEXT PAGE →

COMMUNICATION SYSTEMS

Lower Division Courses [72 units]

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

PHYS 2A-B-C

CHEM 6A

ECE 5, 15, 17, 25, 30, 35, 45, 65

Upper Division Courses [68 units]

Breadth: ECE 100, 101, 102, 107, 109

Depth: ECE 153, 155, 157A, 158A, 159

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

MACHINE LEARNING AND CONTROLS

Lower Division Courses [72 units]

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

PHYS 2A-B-C

CHEM 6A

ECE 5, 15, 17, 25, 30, 35, 45, 65

Upper Division Courses [68 units]

Breadth: ECE 100, 101, 107, 109

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

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

SIGNAL AND IMAGE PROCESSING

Lower Division Courses [72 units]

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

PHYS 2A-B-C

CHEM 6A

ECE 5, 15, 17, 25, 30, 35, 45, 65

Upper Division Courses [68 units]

Breadth: ECE 100, 101, 107, 109

Depth: ECE 153, 161A-B-C

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

COMPUTER SYSTEM DESIGN

Lower Division Courses [76 units]

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

PHYS 2A-B-C

CHEM 6A

ECE 5, 15, 16, 17, 25, 30, 35, 45, 65

Upper Division Courses [64 units]

Breadth: ECE 100, 101, 109

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

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

**ECE 111 MUST be taken as either a depth, tech. Elective or design course*