

## 2020-2021 ELECTRICAL ENGINEERING MAJOR REQUIREMENTS

### 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

### POWER ENGINEERING

#### 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 121A-B, 125A, 128A and either ECE 125B or 128B  
**Technical Electives:** three upper division engineering, math, or physics courses  
**Professional Electives:** two upper division courses  
**Design:** one of ECE 111, 115, 140B, 190, or 191

## 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*

### NOTES:

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

Due to seven different college requirements, only **major** requirements are listed. Students must speak to their college advisor for questions regarding General Education requirements.

**2020-2021 DEPTH REQUIREMENTS CONTINUED ON NEXT PAGE →**