



# VANDERBILT School of Engineering

## Electrical and Computer Engineering Curriculum (2023-2024 Catalog Year) 122 hours (minimum)

### 1. Mathematics (18 hours)

MATH 1300	Accelerated Single-Variable Calculus I (4 hours) F/S
MATH 1301	Accelerated Single-Variable Calculus II (4 hours) F/S
MATH 2300	Multivariable Calculus (3 hours) F/S
MATH 2400	Differential Equations with Linear Algebra (4 hours) F/S
MATH 2810	Probability and Statistics for Engineering (3 hours) F/S

### 2. Basic Science (16 hours)

CHEM 1601+1601L	General Chemistry I and Laboratory (4 hours) F/S
PHYS 1601 + 1601L	General Physics I and Laboratory (4 hours) F/S
PHYS 1602+ 1602L	General Physics II and Laboratory (4 hours) F/S
MSE 1500+1500L	Materials Science I +Lab (4 hours) S
or CHEM 1602+1602L	General Chemistry II +Lab (4 hours) S

### 3. Engineering Fundamentals (6 hours)

ES 1401-1403	Introduction to Engineering (3 hours) F
ES 2100W	Technical Communications (3 hours) F/S

### 4. Culminating Design Experience (7 hours)

ECE 4950	Program & Project Management for ECE (3 hours) F
ECE 4951	Electrical & Computer Engineering Design (3 hours) S
ECE 4959	Senior Engineering Design Seminar (1 hour) F

### 5. Electrical and Computer Engineering Core (21 hours)

CS 1100 or CS 1101	Programming and Problem Solving (3 hours) F/S
CS 2201	Program Design and Data Structures (3 hours) F/S
or CS 2204	Program Design and Data Structures for Scientific Computing (3 hours) S
ECE 2112 + 2112L	Circuits I + Laboratory (4 hours) F/S
ECE 2123+2123L	Digital Systems + Laboratory (4 hours) F/S
ECE 2214	Analog Signals and Systems (3 hours) F/S
ECE 3235+3235L	Electronics I (4 hours) F/S

### 6. Electrical and Computer Engineering Electives (21 hours)

Refer to the 23-24 Electrical and Computer Engineering Electives Concentration Sheet or Undergraduate Catalog for more information.

### 7. Liberal Arts Core (18 hours)

### 8. Technical Electives (12 hours)

- (6-12 hours)
- (0-6 hours)

### 9. Open Elective (3 hours)

Courses excluded from the listings in the Liberal Arts Core may be taken as open electives.



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## Electrical Engineering Prerequisites and Corequisites (2023-2024 Catalog Year)

### 1. Mathematics (18 hours)

MATH 1300	None
MATH 1301	MATH 1300 or MATH 1201
MATH 2300	MATH 1301 or MATH 2200
MATH 2400	Prerequisite or corequisite: MATH 2300
MATH 2810	MATH 2300 or MATH 2310 or MATH 2501

### 2. Basic Science (16 hours)

CHEM 1601+1601L	None
PHYS 1601 + 1601L	Prerequisite or corequisite: MATH 1200 or MATH 1300
PHYS 1602+ 1602L	Prerequisite or corequisite: MATH 1201 or MATH 1301
MSE 1500+1500L or CHEM 1602+1602L	None CHEM 1601; CHEM 1601L

### 3. Engineering Fundamentals (6 hours)

ES 1401-1403	None
ES 2100W	Sophomore standing

### 4. Culminating Design Experience (7 hours)

ECE 4950	Senior standing; Corequisite: ECE 4959
ECE 4951	ECE 4950; at least one DE course; Senior standing
ECE 4959	Senior standing; Corequisite: ECE 4950

### 5. Electrical and Computer Engineering Core (21 hours)

CS 1100 or CS 1101	None
CS 2201	CS 1101 or CS 1104
or CS 2204	CS 1100 or CS 1104 or DS 1100
ECE 2112 + 2112L	Corequisites: MATH 2300; PHYS 1602
ECE 2123+2123L	CS 1101 or CS 1104
ECE 2214	Corequisite: MATH 2400 or MATH 2420
ECE 3235+3235L	ECE 2112

### 6. Electrical and Computer Engineering Electives (21 hours)

Refer to the 22-23 Electrical and Computer Engineering Electives Concentration Sheet or Undergraduate Catalog for more information.

### 7. Liberal Arts Core (18 hours)

### 8. Technical Electives (12 hours)

Check individual course listings in catalog for requisites.

a. (6-12 hours)

b. (0-6 hours)

### 9. Open Elective (3 hours)

Courses excluded from the listings in the Liberal Arts Core may be taken as open electives.