Required Core Courses

Required of all students. A 2.0 cumulative GPA is required in core courses in order to receive a degree in the major.

- ECE 109 - Introduction to Electrical Engineering (3) and ECE 109L - Introduction to Electrical Engineering Laboratory (1)
- ECE 114 - C for Engineers (3) and ECE 114L - Programming Laboratory for Engineers (1)
- ECE 130 - Discrete Structures (4)
- ECE 204 - Introduction to Digital Logic Design (4) and ECE 204L - Introduction to Digital Logic Design Laboratory (1)
- ECE 205 - Digital Circuit Design Using Verilog (3) and ECE 205L - Digital Circuit Design Using Verilog Laboratory (1)
- ECE 207 - Network Analysis I (3) and ECE 207L - Network Analysis I Laboratory (1)
- ECE 209 - Network Analysis II (3) and ECE 209L - Network Analysis II Laboratory (1)
- ECE 220 - Electronic Devices and Circuits (4) and ECE 220L - Electronics Laboratory (1)
- ECE 256 - Object Oriented Programming (4)
- ECE 302 - Electromagnetic Fields (4)
- ECE 304 - Data Structures for Engineers (4)
- ECE 306 - Discrete Time Signals and Systems (4) and ECE 306L - Discrete Time Signals and Systems Laboratory (1)
- ECE 309 - Control Systems Engineering (4) and ECE 309L - Control Systems Laboratory (1)
- ECE 315 - Probability, Statistics, and Random Processes for Electrical and Computer Engineering (4)
- ECE 325 - Electronic Design of Digital Circuits (3) and ECE 325L - Electronic Design of Digital Circuits Laboratory (1)
- ECE 341 - Introduction to Microcontrollers (3) and ECE 341L - Introduction to Microcontrollers Laboratory (1)
- ECE 425 - Computer Architecture (4)
- ECE 426 - Operating Systems for Embedded Applications (3) and ECE 426L - Operating Systems for Embedded Application Laboratory (1)
- ECE 431 - Computer Networks (3) and ECE 431L - Computer Networks Laboratory (1)

or Continue next column

Required Core Courses Con’t.

- ECE 433 - TCP/IP Internetworking (3) and ECE 433L - TCP/IP Internetworking Laboratory (1)
- ECE 464 - Professional Topics for Engineers (1) and ECE 467 - Team Project III (1)
- ECE 480 - Software Engineering (4)

Total Units 86

Elective Core Courses

The electives must be satisfied by selecting courses from the following list. If a course with an associated lab is selected, both must be taken. See Elective Core Courses list on the back of the Curriculum Sheet.

Total Units 11

Interdisciplinary General Education

See Interdisciplinary General Education Courses on the back of the Curriculum Sheet.

Total Units 32

Required Support Courses

The following required support courses should be taken to satisfy the indicated GE Requirements to achieve the minimum units to degree listed at the top of this sheet.

- CHM 121 - General Chemistry (3) and CHM 121L - General Chemistry Laboratory (1) (B3)
- or CHM 115 - General Chemistry for Engineers (4)
- EGR 481 - Project Design Principles and Applications (2) (B5) and EGR 482 - Project Design Principles and Applications (2) (B5)
- MAT 114 - Analytic Geometry and Calculus I (4) (B4)
- MAT 115 - Analytic Geometry and Calculus II (4) (B4)
- MAT 116 - Analytic Geometry and Calculus III (4) (B4)
- MAT 214 - Calculus of Several Variables I (3)
- MAT 215 - Calculus of Several Variables II (3)
- MAT 224 - Elementary Linear Algebra and Differential Equations (4)
- PHY 131 - General Physics (3) (B1) and PHY 131L - General Physics Laboratory (1) (B3)
- PHY 132 - General Physics (3) and PHY 132L - General Physics Laboratory (1)
- PHY 133 - General Physics (3) and PHY 133L - General Physics Laboratory (1)

Total Units 42
## Elective Core Courses

The electives must be satisfied by selecting courses from the following list. If a course with an associated lab is selected, both must be taken.

- ECE 342 - Computer Engineering II (4) and ECE 342L - Computer Engineering II Laboratory (1)
- ECE 343 - Microprocessor I (4) and ECE 343L - Microprocessor I Laboratory (1)
- ECE 404 - Robotics (3) and ECE 404L - Robotics Laboratory (1)
- ECE 408 - Digital Signal Processing I (3) and ECE 408L - Digital Signal Processing Laboratory (1)
- ECE 414 - Digital Control Systems (3) and ECE 414L - Digital Control Systems Laboratory (1)
- ECE 415 - Digital Design using Verilog HDL (3) and ECE 415L - Digital Design using Verilog HDL Laboratory (1)
- ECE 423 - Very Large Scale Integrated (VLSI) Circuit Design (4) and ECE 423L - VLSI Design Laboratory (1)
- ECE 424 - Digital System Design using VHDL (3) and ECE 424L - Digital System Design Using VHDL Laboratory (1)
- ECE 428 - Digital Signal Processing II (4)
- ECE 432 - Microprocessor II (3) and ECE 432L - Microprocessor II Laboratory (1)
- ECE 439 - Embedded System Design and Applications (4)
- ECE 499/499L - Special Topics for Upper Division Students (1-4) (with advisor approval) (Lecture Component Only)

## Interdisciplinary General Education

An alternate pattern for partial fulfillment of GE Areas A, C, D, and E available for students is the Interdisciplinary General Education (IGE) program. Students should see an advisor for specific GE coursework required by their major. Students must be exempt from or score at least 147 on the EPT to qualify for IGE. Please refer to the University Catalog General Education Program section for additional information.

### How IGE fulfills General Education Requirements:

<table>
<thead>
<tr>
<th>Year</th>
<th>Completion of IGE Courses</th>
<th>Satisfies GE Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>IGE 120, IGE 121, IGE 122</td>
<td>A2 as well as any 2 courses from C1-C3</td>
</tr>
<tr>
<td>Sophomore</td>
<td>IGE 220, IGE 221, IGE 222</td>
<td>D1 (8 units) and D3</td>
</tr>
<tr>
<td>Junior</td>
<td>IGE 223, IGE 224</td>
<td>D2 and Area E</td>
</tr>
</tbody>
</table>