### Lower Division General Education Requirements (32 units)

- **ENGL 101** Composition I: Reflective and Expository Writing (4)
- **COMM 150** Oral Communication (4)
- **HIST 202A or 202B** United States Civilization (4)
- **POLS 150** Government and American Society (4)
- **BLOCK C – Humanities** 3 courses from 3 different areas (12)
- **BLOCK E – Lifelong Understanding** 1 course (4)

### University Requirement (4 units)

- **ENGL 102** Composition II: Analytical and Persuasive Writing (4)

### Lower Division Major Requirements (63 units)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisites/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR 150</td>
<td>Introduction to Higher Ed for Engineers (1)</td>
<td>Prerequisite: NONE</td>
</tr>
<tr>
<td>EE 204</td>
<td>Circuit Analysis (4)</td>
<td>Corequisites: PHYS 213, MATH 208</td>
</tr>
<tr>
<td>CE/ME 208</td>
<td>Statics and Strength of Materials (4)</td>
<td>Prerequisites: PHYS 211, MATH 207</td>
</tr>
<tr>
<td>CHEM 101</td>
<td>General Chemistry I (5)</td>
<td>Prerequisite: As described in the Catalog</td>
</tr>
<tr>
<td>EE 210</td>
<td>Electrical Measurements Laboratory (1)</td>
<td>Prerequisite: PHYS 213</td>
</tr>
<tr>
<td>EE 211</td>
<td>Electric Circuits Laboratory (1)</td>
<td>Prerequisite: EE 204</td>
</tr>
<tr>
<td>CS 242</td>
<td>“C” Programming (4)</td>
<td>Prerequisite: Math 104B or Consent of Instructor</td>
</tr>
<tr>
<td>EE 244</td>
<td>Digital Engineering (4)</td>
<td>Prerequisite: NONE</td>
</tr>
<tr>
<td>EE 246</td>
<td>Digital Logic Laboratory (1)</td>
<td>Prerequisite: EE 244</td>
</tr>
<tr>
<td>EE 290</td>
<td>EE Computing (3)</td>
<td>Prerequisites: MATH 209, PHYS213</td>
</tr>
<tr>
<td>MATH 206</td>
<td>Calculus I: Differentiation (4)</td>
<td>Prerequisites: MATH 104A and 104B with “C” or Placement Test</td>
</tr>
<tr>
<td>MATH 207</td>
<td>Calculus II: Integration (4)</td>
<td>Prerequisite: MATH 206 with a minimum of “C” grade</td>
</tr>
<tr>
<td>MATH 208</td>
<td>Calculus III: Sequences, Series, and Coordinate Systems (4)</td>
<td>Prerequisite: MATH 207 with “C”</td>
</tr>
<tr>
<td>MATH 209</td>
<td>Calculus IV: Several Variables (4)</td>
<td>Prerequisite: MATH 208 with a minimum of “C” grade</td>
</tr>
<tr>
<td>MATH 215</td>
<td>Differential Equations (4)</td>
<td>Prerequisite: MATH 209</td>
</tr>
<tr>
<td>PHYS 211</td>
<td>Mechanics (5)</td>
<td>Prerequisites: High School PHYS; MATH 206 (concurrently)</td>
</tr>
<tr>
<td>PHYS 212</td>
<td>Waves, Optics &amp; Thermodynamics (5)</td>
<td>Prerequisites: PHYS 211; MATH 207 (concurrently)</td>
</tr>
<tr>
<td>PHYS 213</td>
<td>Electricity and Magnetism (5)</td>
<td>Prerequisites: PHYS 212; MATH 208 (concurrently)</td>
</tr>
</tbody>
</table>

### Upper Division Major Requirements (48 units)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisites/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE 304</td>
<td>Electric Machines (4)</td>
<td>Prerequisite: EE 204 with “C” or higher grade</td>
</tr>
<tr>
<td>EE 317</td>
<td>Electronics Laboratory I (1)</td>
<td>Prerequisites: EE 210, EE 211, EE 336</td>
</tr>
<tr>
<td>EE 320</td>
<td>Analog Communication Systems (4)</td>
<td>Prerequisite: EE 332</td>
</tr>
<tr>
<td>EE 330</td>
<td>Writing for Electrical Engineers (1)</td>
<td>Corequisites: GWAR; completion of any two 300-level EE lectures</td>
</tr>
<tr>
<td>EE 332</td>
<td>Systems Analysis (4)</td>
<td>Prerequisites: EE 204; Corequisite: MATH 215</td>
</tr>
<tr>
<td>EE 334</td>
<td>Probability and Random Processes (4)</td>
<td>Corequisites: MATH 209</td>
</tr>
<tr>
<td>EE 336</td>
<td>Electronics (4)</td>
<td>Prerequisite: EE 204</td>
</tr>
<tr>
<td>EE 345</td>
<td>Microcomputer Programming (4)</td>
<td>Prerequisite: EE 244</td>
</tr>
<tr>
<td>EE 360</td>
<td>Control Systems Theory I (4)</td>
<td>Prerequisite: EE 332</td>
</tr>
<tr>
<td>EE 437</td>
<td>Electric and Magnetic Fields (4)</td>
<td>Prerequisite: EE 332</td>
</tr>
<tr>
<td>EE 496A</td>
<td>Senior Design I (3)</td>
<td>Prerequisites: Selection of UD specialization; completion of at least two 300-level required courses; Corequisites: EE 330; completion of at least one UD technical elective lab</td>
</tr>
<tr>
<td>EE 496B</td>
<td>Senior Design II (3)</td>
<td>Prerequisite: EE 496A (C or higher)</td>
</tr>
<tr>
<td>EE 496C</td>
<td>Senior Design III (3)</td>
<td>Prerequisite: EE 496B (C or higher)</td>
</tr>
<tr>
<td>ENGR 300</td>
<td>Economics for Engineers (4)</td>
<td>Prerequisite: Must be Junior or Senior Standing in Engineering</td>
</tr>
<tr>
<td>ENGR 301</td>
<td>Ethics and Professionalism in Eng (1)</td>
<td>Prerequisite: Must be Junior or Senior Standing in Engineering</td>
</tr>
</tbody>
</table>

### Upper Division Math Elective (4 units)

11/12/2013
Select one from the following with advisor’s approval.

**MATH 325**  
Math Notation and Proof (4)  
Prerequisite: MATH 208

**MATH 402A**  
Advanced Math I for Eng & Phys (4)  
Prerequisite: MATH 215 or MATH 401

**MATH 403**  
Partial Differential Equations (4)  
Prerequisite: MATH 215 or MATH 401

**MATH 474**  
Theory of Probability (4)  
Prerequisite: MATH 209

**Computer Engineering Specialization (13 units)**

You must take EE 347 and choose two courses from the list below. In addition, select one of the two labs listed.

- **CS 342**  
  Object Oriented Prog Using C++ (4)  
  Prerequisite: CS 242

- **EE 347**  
  Computer Logic Design (4)  
  Prerequisite: EE 244

- **EE 440**  
  Data Communications & Networking (4)  
  Prerequisites: EE 320, CS 242

- **EE 442**  
  Multimedia Networking (4)  
  Prerequisites: EE 290, EE 440

- **EE 443**  
  Programmable Logic Lab (1)  
  Prerequisite: EE 448 or previous experience with Verilog HDL

- **EE 445**  
  Microprocessor Interface Design (4)  
  Prerequisite: EE 345

- **EE 446**  
  Embedded Architectures (4)  
  Prerequisites: CS 242, EE 244

- **EE 447**  
  Backend Compiler Technology (4)  
  Prerequisites: EE 347, CS 342 or permission of instructor

- **EE 448**  
  HDL Design and Simulation Lab (1)  
  Prerequisite: EE 246

- **EE 449**  
  Computer Organization (4)  
  Prerequisite: EE 347 (concurrently)

**Upper Division Technical Electives (22 units)**

Select 5 lecture courses and 2 laboratories with advisor’s approval. Your selection can include additional courses from the computer engineering specialization listed above in addition to courses from below.

**Elective Lectures:**

- **EE 371**  
  Analog Electronics (4)  
  Prerequisite: EE 336

- **EE 372**  
  Digital Electronics (4)  
  Prerequisites: EE 244, EE 336

- **EE 412**  
  Antennas (4)  
  Corequisite: EE 437

- **EE 413**  
  Systems Engineering (4)  
  Prerequisite: EE 360

- **EE 420**  
  Digital Communication Systems (4)  
  Prerequisite: EE 320

- **EE 421**  
  Coding for Communications (4)  
  Prerequisite: EE 320

- **EE 422**  
  Digital Signal Processing (4)  
  Prerequisite: EE 320

- **EE 424**  
  Fiber Optics (4)  
  Prerequisite: EE 320

- **EE 426**  
  Digital Image Processing (4)  
  Prerequisite: EE 320

- **EE 427**  
  Speech Signal Processing (4)  
  Prerequisites: CS 242, EE 334, EE 422

- **EE 431**  
  Electric Power Distribution (4)  
  Prerequisite: EE 304

- **EE 432**  
  Power Transmission Lines (4)  
  Prerequisite: EE 304

- **EE 433**  
  Electric Power System Analysis (4)  
  Prerequisite: EE 432

- **EE 434**  
  Electromagnetic Energy Conversion (4)  
  Prerequisite: EE 304

- **EE 436**  
  Analog Integrated Circuits (4)  
  Prerequisite: EE 336

- **EE 439**  
  Digital Integrated Circuits (4)  
  Prerequisites: EE 336

- **EE 460**  
  Control Systems Theory II (4)  
  Prerequisite: EE 360

- **EE 461**  
  Discrete-Time Control Systems (4)  
  Prerequisite: EE 360

- **EE 462**  
  State Space Control Systems (4)  
  Prerequisite: EE 360

- **EE 472**  
  Optoelectronics (4)  
  Prerequisite: EE 336

- **EE 483**  
  Power Electronics (4)  
  Prerequisite: EE 336

- **EE 485**  
  Introduction to Biomedical Devices (4)  
  Prerequisites: EE 204

- **EE 486**  
  Biomedical Signal Processing (4)  
  Prerequisites: EE 332

- **EE 454**  
  Special Topic in EE (4)  
  Prerequisites: depends on topic taught

**Elective Laboratories:**

- **EE 314**  
  Electromagnetic Energy Conv Laboratory (1)  
  Prerequisites: EE 304, EE 211

- **EE 321**  
  Communications Laboratory (1)  
  Prerequisites: EE 317; EE 320 (concurrently)

- **EE 340**  
  Electronics Laboratory II (1)  
  Prerequisite: EE 317

- **EE 428**  
  Digital Signal Processing Lab (1)  
  Prerequisites: EE 290, EE 332

- **EE 468**  
  Control Systems Laboratory (1)  
  Prerequisite: EE 360 (concurrently)

- **EE 498**  
  Cooperative Education (1)  
  Prerequisites: Contact EE Dept for details

- **EE 499**  
  Undergraduate Directed Study (1)  
  Prerequisite: Department’s Permission

**General Education Upper Division Theme (12 units)**

**UPPER DIVISION GE THEME**  
3 courses (12)

1. A biology course must be included as part of GE Upper Division Theme.
2. Select two *diversity* courses from among all GE courses taken.
3. Must take the *Writing Proficiency Examination* (WPE) prior to completing 135 quarter units.