BS in Electrical Engineering

Many products and services in modern society are based upon the work of electrical engineers. Electrical engineering majors learn the physics of electricity and magnetism; mathematics of circuits and systems; and engineering tools of analysis and design. Electrical engineers design, develop, build and test electrical and electronic devices and systems. For instance, electrical communication systems involving, wire, optical fiber, or wireless technology abound in radio, television, cellphones, and computer networks. Advances in electronics have made possible instrumentation systems for use in all branches of the physical and biological sciences, as well as in most areas of engineering. The reduction in cost and size of digital electronic devices has led to an explosive growth in the use of embedded computing in many application domains. Digital signal processing has enabled information extraction and processing capabilities unforeseen with analog technology in areas of video and music, environmental sciences, biomedical imaging, communication and computer systems. Electric energy is controlled and distributed by a complex transmission and distribution network that is essential to the functionality of modern society. New electric and electronic systems and devices are enabling the control of the flow of energy in a multitude of systems that affect our lives in many different ways.

The electrical engineering curriculum builds upon the physical, mathematical and electrical engineering sciences integrated with engineering tools of analysis and design to prepare an electrical engineer that can contribute to the needs of El Paso del Norte region and the nation. Students in the EE Program can specialize in thematic focus areas such as: (i) Communications, Systems, and Signal Processing, (ii) Fields, Electronics and Devices, (iii) Computer Engineering, and (iv) General Electrical Engineering. New focus areas are being developed in Biomedical Engineering, and Electric Power and Energy.

Marketable Skills

1. Ability to identify, formulate, and solve electrical engineering problems by applying advanced math, science, and engineering principles.
2. Ability to apply engineering design to produce solutions that meet specified needs under realistic constraints.
3. Ability to communicate effectively with a range of audiences.
4. Ability to recognize ethical and professional responsibilities in engineering situations.
5. Ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. Ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. Ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

The BS Degree in Electrical Engineering consists of 128 semester credit hours divided into a lower division, providing diverse courses over a broad base of technical subjects, and an upper-division providing more specialized courses.

Vision

The Department of Electrical & Computer Engineering will provide programs of the highest quality to produce world-class engineers who can address challenges of the millennium.

Mission

The Electrical Engineering Program will:

- Dedicate itself to providing its students with the skills, knowledge, and attitudes that will allow its graduates to succeed as engineers and leaders.
- Maintain a vital, state-of-the art research enterprise that provides its students and faculty with opportunities to create, interpret, apply and disseminate knowledge.
- Prepare its graduates for life-long learning to meet intellectual, ethical, and career challenges.
- Recognize and act upon the special mandate to make high-quality engineering education available to the residents of El Paso and the surrounding region.

Educational Objectives

As individuals and as members of teams, our graduates will be able to:

- Our graduates should apply their knowledge and skills to electrical engineering practice or to pursue advanced education successfully as demonstrated by some of the following:
  - Completion of certificates, graduate degrees, or professional licensing
  - Sustained employment and/or full-time graduate school in electrical engineering or related area
  - Advancement and/or recognition in employment
- Our graduates should demonstrate creativity, leadership and entrepreneurial thinking in the practice of engineering as demonstrated by some of the following
• Leadership roles in their organizations, their profession, and/or in society
• Effective participation in disciplinary and multidisciplinary teams
• Successful development and/or improvement of products, processes, and/or systems

Our graduates should engage successfully in professional communication as demonstrated by some of the following
• Publication of technical articles, engineering reports, and/or proposals
• Effective participation in disciplinary and multidisciplinary teams
• Presentation of their work at professional meetings or conferences

Our graduates should exhibit social and professional responsibility in the practice of engineering as demonstrated by some of the following
• Involvement in community service
• Evidence of commitment to lifelong learning
• Membership in professional organizations

Student Outcomes
These Educational Objectives are supported by the following student outcomes. Attainment of these outcomes prepares program graduates to enter the professional practice of engineering.

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Fast Track
The Fast-Track Program (http://catalog.utep.edu/admissions/undergraduate/fast-track/#text) enables outstanding undergraduate UTEP students to receive both undergraduate and graduate credit for up to 15 hours of UTEP course work as determined by participating Master's and Doctoral programs. Not all undergraduate programs have elected to participate in the Fast Track option, so students should see their departmental graduate advisor for information about requirements and guidelines. A list of courses that have been approved for possible use at the graduate level is found here (http://catalog.utep.edu/admissions/undergraduate/fast-track/#fasttrackcoursestext).

Fast-Track Combined BSEE/Master Program in Electrical or Computer Engineering
Students with at least 90 hours accumulated toward their BSEE degree and a cumulative GPA of at least 3.30 may be eligible for admission into the fast-track BSEE/Master Program. Students admitted to this program take graduate classes that count both toward graduate degree requirements and undergraduate degree requirements, for up to 15 credit hours of ECE graduate courses per approval of the undergraduate and graduate advisors. Eligible ECE graduate courses come from a list approved for fast-track by the ECE Faculty. Students must earn a B or better in the graduate course to count as graduate credit for the Master of Science in Electrical Engineering or for the Master of Science in Computer Engineering. If the grade is a C, it will not count towards the graduate degree but will still count towards the undergraduate degree.

Degree Plan
BS in Electrical Engineering with Concentration
Required Credits: 128

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>University Core Curriculum</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Complete the University Core Curriculum requirements. (p. 6)</td>
<td>42</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Concentration Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>This program requires the selection of a concentration.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Electrical Engineering Designated Core (All courses require a grade of C or better.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required Courses:</td>
</tr>
<tr>
<td>CE 2326</td>
</tr>
<tr>
<td>CS 1320</td>
</tr>
<tr>
<td>PHYS 2320</td>
</tr>
<tr>
<td>Course Code</td>
</tr>
<tr>
<td>------------</td>
</tr>
<tr>
<td>PHYS 2120</td>
</tr>
<tr>
<td>PHYS 2321</td>
</tr>
<tr>
<td>PHYS 2121</td>
</tr>
<tr>
<td>MATH 1508</td>
</tr>
<tr>
<td>or MATH 1310</td>
</tr>
<tr>
<td>or MATH 1411</td>
</tr>
</tbody>
</table>

**Electrical Engineering Core (Lower) (All courses require a grade of C or better.)**

**Required Courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECE 1100</td>
<td>Lab for ECE 1300</td>
<td>1</td>
</tr>
<tr>
<td>ECE 1300</td>
<td>Intro to Electr/Comp Eng</td>
<td>3</td>
</tr>
<tr>
<td>ECE 2102</td>
<td>Lab for ECE 2302</td>
<td>1</td>
</tr>
<tr>
<td>ECE 2103</td>
<td>Lab for ECE 2303</td>
<td>1</td>
</tr>
<tr>
<td>ECE 2301</td>
<td>Electric Circuits I</td>
<td>3</td>
</tr>
<tr>
<td>ECE 2302</td>
<td>Electric Circuits II</td>
<td>3</td>
</tr>
<tr>
<td>ECE 2331</td>
<td>Cont. Time Signals &amp; Systems</td>
<td>3</td>
</tr>
<tr>
<td>ECE 2303</td>
<td>Digital Systems Design I</td>
<td>3</td>
</tr>
<tr>
<td>ECE 2300</td>
<td>Software Design I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1312</td>
<td>Calculus II</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1411</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 2313</td>
<td>Calculus III</td>
<td>3</td>
</tr>
<tr>
<td>MATH 2326</td>
<td>Differential Equations</td>
<td>3</td>
</tr>
</tbody>
</table>

**Select one of the following:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 1305</td>
<td>General Biology</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 1305</td>
<td>General Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>MATH 2300</td>
<td>Discrete Mathematics</td>
<td>3</td>
</tr>
</tbody>
</table>

**Electrical Engineering Core (Upper)**

**Required Courses:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECE 3141</td>
<td>Lab for ECE 3341</td>
<td>1</td>
</tr>
<tr>
<td>ECE 2104</td>
<td>Lab for ECE 2304</td>
<td>1</td>
</tr>
<tr>
<td>ECE 3100</td>
<td>Junior Prof. Orientation</td>
<td>1</td>
</tr>
<tr>
<td>ECE 3320</td>
<td>Electromagnetic Field Theory</td>
<td>3</td>
</tr>
<tr>
<td>ECE 3343</td>
<td>Applied Quantum Mech for EE</td>
<td>3</td>
</tr>
<tr>
<td>ECE 3344</td>
<td>Fund. of Semiconductor Dev</td>
<td>3</td>
</tr>
<tr>
<td>ECE 3341</td>
<td>Electronics I</td>
<td>3</td>
</tr>
<tr>
<td>ECE 3342</td>
<td>Electronics II</td>
<td>3</td>
</tr>
<tr>
<td>ECE 3331</td>
<td>Discrete Time Signals &amp; Sys</td>
<td>3</td>
</tr>
<tr>
<td>ECE 2304</td>
<td>Microprocessor Systems I</td>
<td>3</td>
</tr>
<tr>
<td>ECE 3332</td>
<td>Prob with App Elect/Comp Eng</td>
<td>3</td>
</tr>
<tr>
<td>ECE 4203</td>
<td>EE Capstone Project Lab I</td>
<td>2</td>
</tr>
<tr>
<td>ECE 4204</td>
<td>EE Capstone Project Lab II</td>
<td>2</td>
</tr>
<tr>
<td>MATH 3323</td>
<td>Matrix Algebra C</td>
<td>3</td>
</tr>
</tbody>
</table>

**Select one of the following:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECE 3170</td>
<td>Lab for ECE 3370</td>
<td>1</td>
</tr>
<tr>
<td>ECE 3193</td>
<td>Undergraduate Service Learning</td>
<td></td>
</tr>
<tr>
<td>ECE 3194</td>
<td>Undergraduate Research</td>
<td></td>
</tr>
<tr>
<td>ECE 4153</td>
<td>Lab for ECE 4353</td>
<td></td>
</tr>
<tr>
<td>ECE 4140</td>
<td>Lab for ECE 4340</td>
<td></td>
</tr>
<tr>
<td>ECE 4191</td>
<td>Engineering Problems</td>
<td></td>
</tr>
<tr>
<td>ECE 4154</td>
<td>Lab for ECE 4354</td>
<td></td>
</tr>
<tr>
<td>ECE 4190</td>
<td>Special Topics Lab in ECE</td>
<td></td>
</tr>
<tr>
<td>ECE 4182</td>
<td>Co-op Work Experiences</td>
<td></td>
</tr>
<tr>
<td>ECE 4183</td>
<td>Co-op Work Experiences</td>
<td></td>
</tr>
</tbody>
</table>
Computer Engineering

Students in this concentration study the science and technology of design, construction, implementation, and maintenance of software and hardware components of modern computing systems, computer controlled equipment, and networks of intelligent devices.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECE 3350</td>
<td>Software Design II</td>
<td></td>
</tr>
<tr>
<td>ECE 4353</td>
<td>Digital Systems Design II</td>
<td></td>
</tr>
<tr>
<td>ECE 4360</td>
<td>Foundations of Deep Learning</td>
<td></td>
</tr>
<tr>
<td>ECE 4361</td>
<td>Fuzzy Logic and Engineering</td>
<td></td>
</tr>
<tr>
<td>ECE 4391</td>
<td>Engineering Problems Seminar</td>
<td></td>
</tr>
<tr>
<td>ECE 3352</td>
<td>Operating System Design</td>
<td></td>
</tr>
<tr>
<td>ECE 4355</td>
<td>VLSI Design</td>
<td></td>
</tr>
<tr>
<td>EE 4376</td>
<td>CMOS Digital Circuit Design</td>
<td></td>
</tr>
<tr>
<td>ECE 4354</td>
<td>Microprocessor Systems II</td>
<td></td>
</tr>
<tr>
<td>ECE 3351</td>
<td>Computer Architecture</td>
<td></td>
</tr>
<tr>
<td>ECE 4394</td>
<td>Undergraduate Research</td>
<td></td>
</tr>
<tr>
<td>ECE 4390</td>
<td>Special Topics</td>
<td></td>
</tr>
</tbody>
</table>

Fields and Devices

Students in this concentration study the physical foundations for materials and devices used in modern electronic and optoelectronic systems as well as different aspects of applied electromagnetics. They also learn the engineering principles for the design and development of devices and systems.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECE 3310</td>
<td>Energy Conversion</td>
<td></td>
</tr>
<tr>
<td>ECE 4320</td>
<td>Applied Electromagnetics</td>
<td></td>
</tr>
<tr>
<td>ECE 4341</td>
<td>Theory &amp; Appl Contemp Devices</td>
<td></td>
</tr>
<tr>
<td>ECE 4340</td>
<td>VLSI Nanotechnology</td>
<td></td>
</tr>
<tr>
<td>ECE 4336</td>
<td>Fiber Optic Communication</td>
<td></td>
</tr>
<tr>
<td>ECE 4391</td>
<td>Engineering Problems Seminar</td>
<td></td>
</tr>
<tr>
<td>ECE 4355</td>
<td>VLSI Design</td>
<td></td>
</tr>
<tr>
<td>EE 4376</td>
<td>CMOS Digital Circuit Design</td>
<td></td>
</tr>
<tr>
<td>ECE 4310</td>
<td>Applied Photovoltaics</td>
<td></td>
</tr>
<tr>
<td>ECE 4321</td>
<td>Microwave Engineering</td>
<td></td>
</tr>
<tr>
<td>ECE 4322</td>
<td>Antenna Engineering</td>
<td></td>
</tr>
<tr>
<td>ECE 4312</td>
<td>Transmission Power Flow Cont.</td>
<td></td>
</tr>
<tr>
<td>ECE 4301</td>
<td>Computational Methods In EE</td>
<td></td>
</tr>
<tr>
<td>ECE 4315</td>
<td>Intro to Power Electronics</td>
<td></td>
</tr>
<tr>
<td>ECE 4323</td>
<td>High Resolution Radar</td>
<td></td>
</tr>
</tbody>
</table>
General Electrical Engineering

Students in this concentration have the opportunity to acquire a broad background in electrical engineering by taking selection of courses across different sub-disciplines in electrical engineering.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General Electrical Engineering Concentration</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Select 12 hours from the following:</td>
<td>12</td>
</tr>
<tr>
<td>ECE 3370</td>
<td>Intro to Communication Networks</td>
<td></td>
</tr>
<tr>
<td>ECE 3350</td>
<td>Software Design II</td>
<td></td>
</tr>
<tr>
<td>ECE 3310</td>
<td>Energy Conversion</td>
<td></td>
</tr>
<tr>
<td>ECE 4353</td>
<td>Digital Systems Design II</td>
<td></td>
</tr>
<tr>
<td>ECE 4320</td>
<td>Applied Electromagnetics</td>
<td></td>
</tr>
<tr>
<td>ECE 4341</td>
<td>Theory &amp; Appl Contemp Devices</td>
<td></td>
</tr>
<tr>
<td>ECE 4340</td>
<td>VLSI Nanotechnology</td>
<td></td>
</tr>
<tr>
<td>ECE 4332</td>
<td>Real-Time Digital Signal Proc</td>
<td></td>
</tr>
<tr>
<td>EE 4357</td>
<td>Biomechatronics</td>
<td></td>
</tr>
<tr>
<td>EE 4358</td>
<td>Med Diag &amp; Therap Instrum</td>
<td></td>
</tr>
<tr>
<td>ECE 4383</td>
<td>Biomedical Signal &amp; Image Proc</td>
<td></td>
</tr>
<tr>
<td>EE 4360</td>
<td>Telemedicine &amp; Imaging Inform</td>
<td></td>
</tr>
<tr>
<td>ECE 4336</td>
<td>Fiber Optic Communication</td>
<td></td>
</tr>
<tr>
<td>ECE 4338</td>
<td>Systems and Controls</td>
<td></td>
</tr>
<tr>
<td>ECE 4360</td>
<td>Foundations of Deep Learning</td>
<td></td>
</tr>
<tr>
<td>ECE 4361</td>
<td>Fuzzy Logic and Engineering</td>
<td></td>
</tr>
<tr>
<td>ECE 4391</td>
<td>Engineering Problems Seminar</td>
<td></td>
</tr>
<tr>
<td>ECE 3352</td>
<td>Operating System Design</td>
<td></td>
</tr>
<tr>
<td>ECE 4355</td>
<td>VLSI Design</td>
<td></td>
</tr>
<tr>
<td>EE 4376</td>
<td>CMOS Digital Circuit Design</td>
<td></td>
</tr>
<tr>
<td>ECE 4310</td>
<td>Applied Photovoltaics</td>
<td></td>
</tr>
<tr>
<td>ECE 4354</td>
<td>Microprocessor Systems II</td>
<td></td>
</tr>
<tr>
<td>ECE 3351</td>
<td>Computer Architecture</td>
<td></td>
</tr>
<tr>
<td>ECE 4321</td>
<td>Microwave Engineering</td>
<td></td>
</tr>
<tr>
<td>ECE 4322</td>
<td>Antenna Engineering</td>
<td></td>
</tr>
<tr>
<td>ECE 4330</td>
<td>Digital Signal Processing</td>
<td></td>
</tr>
<tr>
<td>ECE 4312</td>
<td>Transmission Power Flow Cont.</td>
<td></td>
</tr>
<tr>
<td>ECE 4345</td>
<td>Biomedical Instrumentation</td>
<td></td>
</tr>
<tr>
<td>ECE 4301</td>
<td>Computational Methods In EE</td>
<td></td>
</tr>
<tr>
<td>ECE 4315</td>
<td>Intro to Power Electronics</td>
<td></td>
</tr>
<tr>
<td>ECE 4335</td>
<td>Digital Communications</td>
<td></td>
</tr>
<tr>
<td>ECE 4323</td>
<td>High Resolution Radar</td>
<td></td>
</tr>
<tr>
<td>ECE 4394</td>
<td>Undergraduate Research</td>
<td></td>
</tr>
<tr>
<td>ECE 4390</td>
<td>Special Topics</td>
<td></td>
</tr>
<tr>
<td>ECE 4396</td>
<td>Practicum in Elect &amp; Comp Eng</td>
<td></td>
</tr>
</tbody>
</table>

Power and Energy Systems Engineering

Students in this concentration study the development, planning, design, construction, maintenance, installation and operation of electric power systems for the safe, sustainable, economic and reliable conversion, generation, transmission, distribution, storage and usage of electric energy, including its measurement and control.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Power and Energy Systems Engineering Concentration</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Select 12 hours from the following:</td>
<td></td>
</tr>
</tbody>
</table>
### Biomedical Engineering

Students in this concentration study the development and application of engineering concepts and methods to provide new solutions to biological, medical and healthcare problems.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE 4357</td>
<td>Biomechatronics</td>
<td>12</td>
</tr>
<tr>
<td>EE 4358</td>
<td>Med Diag &amp; Therap Instrum</td>
<td></td>
</tr>
<tr>
<td>ECE 4383</td>
<td>Biomedical Signal &amp; Image Proc</td>
<td></td>
</tr>
<tr>
<td>EE 4360</td>
<td>Telemedicine &amp; Imaging Inform</td>
<td></td>
</tr>
<tr>
<td>ECE 4338</td>
<td>Systems and Controls</td>
<td></td>
</tr>
<tr>
<td>ECE 4391</td>
<td>Engineering Problems Seminar</td>
<td></td>
</tr>
<tr>
<td>ECE 4345</td>
<td>Biomedical Instrumentation</td>
<td></td>
</tr>
<tr>
<td>ECE 4394</td>
<td>Undergraduate Research</td>
<td></td>
</tr>
<tr>
<td>ECE 4390</td>
<td>Special Topics</td>
<td></td>
</tr>
</tbody>
</table>

### Signal Processing, Systems and Communications

Students in this concentration study the theory, applications, algorithms, and implementation of devices and systems for the generation, transformation, extraction, transmission, understanding and interpretation of information contained in signals. They also learn about how this information can be used to analyze, optimize, and control dynamic systems.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECE 3370</td>
<td>Intro to Communication Netwks</td>
<td>12</td>
</tr>
<tr>
<td>ECE 4332</td>
<td>Real-Time Digital Signal Proc</td>
<td></td>
</tr>
<tr>
<td>ECE 4336</td>
<td>Fiber Optic Communication</td>
<td></td>
</tr>
<tr>
<td>ECE 4338</td>
<td>Systems and Controls</td>
<td></td>
</tr>
<tr>
<td>ECE 4391</td>
<td>Engineering Problems Seminar</td>
<td></td>
</tr>
<tr>
<td>ECE 4330</td>
<td>Digital Signal Processing</td>
<td></td>
</tr>
<tr>
<td>ECE 4335</td>
<td>Digital Communications</td>
<td></td>
</tr>
<tr>
<td>ECE 4323</td>
<td>High Resolution Radar</td>
<td></td>
</tr>
<tr>
<td>ECE 4394</td>
<td>Undergraduate Research</td>
<td></td>
</tr>
<tr>
<td>ECE 4390</td>
<td>Special Topics</td>
<td></td>
</tr>
</tbody>
</table>

### University Core Curriculum

The department may make specific suggestions for courses which are most applicable towards your major.

All courses require a C or better

#### I. Communication (six hours)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECE 3370</td>
<td>Intro to Communication Netwks</td>
<td>6</td>
</tr>
</tbody>
</table>

Courses in this category focus on developing ideas and expressing them clearly, considering the effect of the message, fostering understanding, and building the skills needed to communicate persuasively. Courses involve the command of oral, aural, written, and visual literacy skills that enable people to exchange messages appropriate to the subject, occasion, and audience.

Select six hours of the following:

For students whose secondary education was in English:
<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMM 1611</td>
<td>Written and Oral Communication</td>
<td>7</td>
</tr>
<tr>
<td>ENGL 1313</td>
<td>Writing About Literature</td>
<td></td>
</tr>
<tr>
<td>RWS 1301</td>
<td>Rhetoric &amp; Composition I</td>
<td></td>
</tr>
<tr>
<td>RWS 1302</td>
<td>Rhetoric &amp; Composition 2</td>
<td></td>
</tr>
<tr>
<td>RWS 1601</td>
<td>Rhetoric, Composition &amp; Comm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>For students whose secondary education was not in English:</td>
<td></td>
</tr>
<tr>
<td>ESOL 1311</td>
<td>Expos Engl Compos-Spkr Esl</td>
<td></td>
</tr>
<tr>
<td>ESOL 1312</td>
<td>Res &amp; Crit Writing Spkr Esl</td>
<td></td>
</tr>
</tbody>
</table>

Total Hours: 6

II. American History (six hours)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 1301</td>
<td>History of U.S. to 1865</td>
<td>3</td>
</tr>
<tr>
<td>HIST 1302</td>
<td>History of U.S. Since 1865</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Hours: 6

III. Language, Philosophy & Culture (three hours)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFST 2300</td>
<td>Intro-African Amer Studies</td>
<td>3</td>
</tr>
<tr>
<td>CHIC 2302</td>
<td>Latina/o Presence in the U.S.</td>
<td></td>
</tr>
<tr>
<td>ENGL 2311</td>
<td>English Literature</td>
<td></td>
</tr>
<tr>
<td>ENGL 2312</td>
<td>English Literature</td>
<td></td>
</tr>
<tr>
<td>ENGL 2313</td>
<td>Intro to American Fiction</td>
<td></td>
</tr>
<tr>
<td>ENGL 2314</td>
<td>Intro to American Drama</td>
<td></td>
</tr>
<tr>
<td>ENGL 2318</td>
<td>Intro to American Poetry</td>
<td></td>
</tr>
<tr>
<td>FREN 2322</td>
<td>Making of the &quot;Other&quot; Americas</td>
<td></td>
</tr>
<tr>
<td>HIST 2301</td>
<td>World History to 1500</td>
<td></td>
</tr>
<tr>
<td>HIST 2302</td>
<td>World History Since 1500</td>
<td></td>
</tr>
<tr>
<td>PHIL 1301</td>
<td>Introduction to Philosophy</td>
<td></td>
</tr>
<tr>
<td>PHIL 2306</td>
<td>Ethics</td>
<td></td>
</tr>
<tr>
<td>RS 1301</td>
<td>Introduc to Religious Studies</td>
<td></td>
</tr>
<tr>
<td>SPAN 2340</td>
<td>Seeing &amp; Naming: Conversations</td>
<td></td>
</tr>
<tr>
<td>WS 2300</td>
<td>Introduction to Womens Studies</td>
<td></td>
</tr>
<tr>
<td>WS 2350</td>
<td>Global Feminisms</td>
<td></td>
</tr>
</tbody>
</table>

Total Hours: 3

IV. Mathematics (three hours)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 1309</td>
<td>College Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1310</td>
<td>Trigonometry and Conics</td>
<td></td>
</tr>
<tr>
<td>MATH 1319</td>
<td>Math in the Modern World</td>
<td></td>
</tr>
<tr>
<td>MATH 1320</td>
<td>Math for Social Sciences I</td>
<td></td>
</tr>
<tr>
<td>MATH 1411</td>
<td>Calculus I</td>
<td></td>
</tr>
<tr>
<td>MATH 1508</td>
<td>Precalculus</td>
<td></td>
</tr>
</tbody>
</table>

Total Hours: 3
MATH 2301  Math for Social Sciences II
STAT 1380  Statistical Literacy
STAT 2480  Elementary Statistical Methods

1 A higher-level course in the calculus sequence can be substituted.
2 TCCN MATH 1314 will also satisfy this requirement.

Total Hours

V. Life & Physical Sciences (six hours)

Courses in this category focus on describing, explaining, and predicting natural phenomena using the scientific method. Courses involve the understanding of interactions among natural phenomena and the implications of scientific principles on the physical world and on experiences.

Select one of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTR 1107</td>
<td>Astronomy Lab I</td>
</tr>
<tr>
<td>ASTR 1307</td>
<td>Elem Astronomy-Solar System</td>
</tr>
<tr>
<td>ASTR 1308</td>
<td>Elem Astr Stars &amp; Galaxies</td>
</tr>
<tr>
<td>BIOL 1103</td>
<td>Introductory Biology Lab</td>
</tr>
<tr>
<td>BIOL 1104</td>
<td>Human Biology Laboratory</td>
</tr>
<tr>
<td>BIOL 1107</td>
<td>Topics in Study of Life I</td>
</tr>
<tr>
<td>BIOL 1108</td>
<td>Organismal Biology Laboratory</td>
</tr>
<tr>
<td>BIOL 1203</td>
<td>Introductory Biology</td>
</tr>
<tr>
<td>BIOL 1304</td>
<td>Human Biology</td>
</tr>
<tr>
<td>BIOL 1305</td>
<td>General Biology</td>
</tr>
<tr>
<td>BIOL 1306</td>
<td>Organismal Biology</td>
</tr>
<tr>
<td>BIOL 2111</td>
<td>Human Anat/Physio Lab I</td>
</tr>
<tr>
<td>BIOL 2113</td>
<td>Human Anat/Physio Lab II</td>
</tr>
<tr>
<td>BIOL 2311</td>
<td>Human Anat/Physiology I</td>
</tr>
<tr>
<td>BIOL 2313</td>
<td>Human Anat/Physiology II</td>
</tr>
<tr>
<td>CHEM 1105</td>
<td>Laboratory for CHEM 1305</td>
</tr>
<tr>
<td>CHEM 1106</td>
<td>Laboratory for CHEM 1306</td>
</tr>
<tr>
<td>CHEM 1107</td>
<td>Intro General Chemistry Lab</td>
</tr>
<tr>
<td>CHEM 1108</td>
<td>Intro Organic &amp; Biochem Lab</td>
</tr>
<tr>
<td>CHEM 1305</td>
<td>General Chemistry</td>
</tr>
<tr>
<td>CHEM 1306</td>
<td>General Chemistry</td>
</tr>
<tr>
<td>CHEM 1307</td>
<td>Intro to General Chemistry</td>
</tr>
<tr>
<td>CHEM 1308</td>
<td>Intro Organic &amp; Biochemistry</td>
</tr>
<tr>
<td>ESCI 1101</td>
<td>Environmental Sci. Lab</td>
</tr>
<tr>
<td>ESCI 1102</td>
<td>Non-major Lab for ESCI 1301</td>
</tr>
<tr>
<td>ESCI 1202</td>
<td>Intro to Environment Science 2</td>
</tr>
<tr>
<td>ESCI 1301</td>
<td>Intro to Environmental Sci</td>
</tr>
<tr>
<td>GEOG 1106</td>
<td>Laboratory for GEOG 1306</td>
</tr>
<tr>
<td>GEOG 1306</td>
<td>Physical Geography</td>
</tr>
<tr>
<td>GEOL 1103</td>
<td>Lab for GEOL 1313</td>
</tr>
<tr>
<td>GEOL 1104</td>
<td>Lab for GEOL 1314</td>
</tr>
<tr>
<td>GEOL 1111</td>
<td>Principles of Earth Sci - Lab</td>
</tr>
<tr>
<td>GEOL 1112</td>
<td>Laboratory for Geology 1212</td>
</tr>
<tr>
<td>GEOL 1211</td>
<td>Principles of Earth Sciences</td>
</tr>
<tr>
<td>GEOL 1212</td>
<td>Principles of Earth Science</td>
</tr>
<tr>
<td>GEOL 1230</td>
<td>The Blue Planet</td>
</tr>
<tr>
<td>GEOL 1231</td>
<td>Natural Hazards</td>
</tr>
<tr>
<td>GEOL 1313</td>
<td>Intro to Physical Geology</td>
</tr>
<tr>
<td>GEOL 1314</td>
<td>Intro to Historical Geol</td>
</tr>
<tr>
<td>HSCI 2302</td>
<td>Fundamentals of Nutrition</td>
</tr>
</tbody>
</table>
HSCI 2303  Wellness Dynamics
MICR 2330  Microorganisms and Disease
PHYS 1403  General Physics I
PHYS 1404  General Physics II
PHYS 2120  Laboratory for PHYS 2320
PHYS 2121  Laboratory for PHYS 2321
PHYS 2320  Introductory Mechanics
PHYS 2321  Introductory Electromagnetism

Total Hours 6

VI. Political Science (six hours)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>POLS 2310</td>
<td>Introduction to Politics</td>
<td>3</td>
</tr>
<tr>
<td>POLS 2311</td>
<td>American Gover &amp; Politics</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Hours 6

VII. Social and Behavioral Sciences (three hours)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 1301</td>
<td>Intro-Phys Anth/Archeolog</td>
<td>3</td>
</tr>
<tr>
<td>ANTH 1302</td>
<td>Intro-Cultural Anthropology</td>
<td></td>
</tr>
<tr>
<td>ANTH 1310</td>
<td>Cultural Geography</td>
<td></td>
</tr>
<tr>
<td>ANTH 2320</td>
<td>Intro to Linguistics</td>
<td></td>
</tr>
<tr>
<td>CE 2326</td>
<td>Econ for Engrs &amp; Scientists</td>
<td></td>
</tr>
<tr>
<td>CHIC 2311</td>
<td>Intro to Chicano Studies</td>
<td></td>
</tr>
<tr>
<td>ASIA 2300</td>
<td>Asian American Studies</td>
<td></td>
</tr>
<tr>
<td>COMM 2350</td>
<td>Interpersonal Communication</td>
<td></td>
</tr>
<tr>
<td>COMM 2372</td>
<td>Mass Media and Society</td>
<td></td>
</tr>
<tr>
<td>ECON 2303</td>
<td>Principles of Macroeconomics</td>
<td></td>
</tr>
<tr>
<td>ECON 2304</td>
<td>Principles of Microeconomics</td>
<td></td>
</tr>
<tr>
<td>EDPC 1301</td>
<td>Introduction to Ed Psychology</td>
<td></td>
</tr>
<tr>
<td>EDU 1342</td>
<td>Action Research in Classrooms</td>
<td></td>
</tr>
<tr>
<td>ENGL 2320</td>
<td>Introduction to Linguistics</td>
<td></td>
</tr>
<tr>
<td>GEOG 1310</td>
<td>Cultural Geography</td>
<td></td>
</tr>
<tr>
<td>LEAD 2300</td>
<td>Leadership in Action</td>
<td></td>
</tr>
<tr>
<td>LING 2320</td>
<td>Introduction to Linguistics</td>
<td></td>
</tr>
<tr>
<td>LING 2340</td>
<td>Lang. Inside &amp; Out: Sel Topics</td>
<td></td>
</tr>
<tr>
<td>PSYC 1301</td>
<td>Introduction to Psychology</td>
<td></td>
</tr>
<tr>
<td>SOCI 1301</td>
<td>Introduction to Sociology</td>
<td></td>
</tr>
<tr>
<td>SOCI 1310</td>
<td>Cultural Geography</td>
<td></td>
</tr>
</tbody>
</table>

Total Hours 3

VIII. Creative Arts (three hours)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 2320</td>
<td>Introduction to Linguistics</td>
<td></td>
</tr>
<tr>
<td>GEOG 1310</td>
<td>Cultural Geography</td>
<td></td>
</tr>
<tr>
<td>LEAD 2300</td>
<td>Leadership in Action</td>
<td></td>
</tr>
<tr>
<td>LING 2320</td>
<td>Introduction to Linguistics</td>
<td></td>
</tr>
<tr>
<td>LING 2340</td>
<td>Lang. Inside &amp; Out: Sel Topics</td>
<td></td>
</tr>
<tr>
<td>PSYC 1301</td>
<td>Introduction to Psychology</td>
<td></td>
</tr>
<tr>
<td>SOCI 1301</td>
<td>Introduction to Sociology</td>
<td></td>
</tr>
<tr>
<td>SOCI 1310</td>
<td>Cultural Geography</td>
<td></td>
</tr>
</tbody>
</table>

Total Hours 3
Select one of the following:  

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 1300</td>
<td>Art Appreciation</td>
</tr>
<tr>
<td>ARTH 1305</td>
<td>History of Art I</td>
</tr>
<tr>
<td>ARTH 1306</td>
<td>History of Art II</td>
</tr>
<tr>
<td>CHIC 1311</td>
<td>Chicana/o Fine Arts Appreciation</td>
</tr>
<tr>
<td>DANC 1304</td>
<td>Introduction to Dance</td>
</tr>
<tr>
<td>FILM 1390</td>
<td>Intro-Art of Motion Pict.</td>
</tr>
<tr>
<td>MUSL 1324</td>
<td>Music Appreciation</td>
</tr>
<tr>
<td>MUSL 1327</td>
<td>Jazz to Rock</td>
</tr>
<tr>
<td>MUSL 2321</td>
<td>Music, Culture, and Society</td>
</tr>
<tr>
<td>THEA 1313</td>
<td>Introduction to Theatre</td>
</tr>
</tbody>
</table>

Total Hours 3

**IX. Component Area Option (six hours)**

a. A minimum of 3 SCH must meet the definition and corresponding Core Objectives specified in one of the foundational component areas. 
b. As an option for up to 3 semester credit hours of the Component Area Option, an institution may select course(s) that: (i) Meet(s) the definition specified for one or more of the foundational component areas; and (ii) Include(s) a minimum of three Core Objectives, including Critical Thinking Skills, Communication Skills, and one of the remaining Core Objectives of the institution's choice.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSN 1301</td>
<td>Intro to Global Business</td>
</tr>
<tr>
<td>COMM 1301</td>
<td>Public Speaking</td>
</tr>
<tr>
<td>COMM 1302</td>
<td>Business/Profession Comm</td>
</tr>
<tr>
<td>CS 1310</td>
<td>Intro-Computational Thinking</td>
</tr>
<tr>
<td>CS 1320</td>
<td>Computer Programming Sci/Engr</td>
</tr>
<tr>
<td>EL 1301</td>
<td>Eng Innovation and Leadership</td>
</tr>
<tr>
<td>ENGR 1302</td>
<td>Engineering Design Experience</td>
</tr>
<tr>
<td>ENGR 1303</td>
<td>Applied Engineering Analysis</td>
</tr>
<tr>
<td>LEAD 1300</td>
<td>Introduction to Leadership</td>
</tr>
<tr>
<td>SCI 1301</td>
<td>Inquiry in Math &amp; Science</td>
</tr>
<tr>
<td>SPLP 1312</td>
<td>Comm. Var. Across the Lifespan</td>
</tr>
<tr>
<td>UNIV 1301</td>
<td>Seminar/Critical Inquiry</td>
</tr>
</tbody>
</table>

Total Hours 0

**4-Year Sample Degree Plan**

**BS Electrical Engineering (Starting with Pre-calculus)**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Summer</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(if needed)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 1508</td>
<td>Precalculus</td>
<td>3-5</td>
</tr>
<tr>
<td>or MATH 1310</td>
<td>Trigonometry and Conics</td>
<td></td>
</tr>
<tr>
<td><strong>FRESHMAN</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fall</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RWS 1301</td>
<td>Rhetoric &amp; Composition I</td>
<td>3</td>
</tr>
<tr>
<td>EL 1301</td>
<td>Eng Innovation and Leadership</td>
<td>3</td>
</tr>
<tr>
<td>or COMM 1302</td>
<td>Business/Profession Comm</td>
<td></td>
</tr>
<tr>
<td>CS 1320</td>
<td>Computer Programming Sci/Engr</td>
<td>3</td>
</tr>
<tr>
<td>ECE 1300</td>
<td>Intro to Electr/Comp Eng &amp; ECE 1100</td>
<td>4</td>
</tr>
<tr>
<td>&amp; ECE 1100</td>
<td>and Lab for ECE 1300</td>
<td></td>
</tr>
<tr>
<td>MATH 1411</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td><strong>Spring</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIST 1301</td>
<td>History of U.S. to 1865</td>
<td>3</td>
</tr>
</tbody>
</table>
RWS 1302  Rhetoric & Composition 2  3
PHYS 2320  Introductory Mechanics  4
& PHYS 2120  and Laboratory for PHYS 2320  4
ECE 2303  Digital Systems Design I  4
& ECE 2103  and Lab for ECE 2303  4
MATH 1312  Calculus II  3

**SOPHOMORE**

**Fall**
CE 2326  Econ for Engrs & Scientists  3
PHYS 2321  Introductory Electromagnetism  4
& PHYS 2121  and Laboratory for PHYS 2321  4
ECE 2300  Software Design I  3
ECE 2301  Electric Circuits I  3
MATH 2326  Differential Equations  3

**Spring**
HIST 1302  History of U.S. Since 1865  3
ECE 2302  Electric Circuits II  4
& ECE 2102  and Lab for ECE 2302  4
ECE 2304  Microprocessor Systems I  4
& ECE 2104  and Lab for ECE 2304  4
ECE 3331  Discrete Time Signals & Sys  3
MATH 2313  Calculus III  3

**JUNIOR**

**Fall**
ECE 3341  Electronics I  4
& ECE 3141  and Lab for ECE 3341  4
ECE 2331  Cont. Time Signals & Systems  3
ECE 3343  Applied Quantum Mech for EE  3
ECE 3320  Electromagnetic Field Theory  3
MATH 3323  Matrix Algebra  3

**Spring**
Creative Arts (Core)  3
ECE 3344  Fund. of Semiconductor Dev  3
ECE 3100  Junior Prof. Orientation  1
ECE 3342  Electronics II  3
ECE 3332  Prob with App Elect/Comp Eng  3
Select Science or Math  3

**SENIOR**

**Fall**
POLS 2310  Introduction to Politics  3
Language, Philosophy, and Culture (Core)  3
Choose Experiential Learning  1
ECE 4203  EE Capstone Project Lab I  2
Choose ECE Option courses  3
Choose ECE Option courses  3

**Spring**
POLS 2311  American Gover & Politics  3
ECE 4204  EE Capstone Project Lab II  2
Choose ECE Option courses  3
Choose ECE Option courses  3
Professional Option  3

**Total Hours**  131-133
## BS Electrical Engineering (Starting with Calculus)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>FRESHMAN</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Fall</strong></td>
<td></td>
</tr>
<tr>
<td>RWS 1301</td>
<td>Rhetoric &amp; Composition I</td>
<td>3</td>
</tr>
<tr>
<td>EL 1301</td>
<td>Eng Innovation and Leadership</td>
<td>3</td>
</tr>
<tr>
<td>or COMM 1302</td>
<td>Business/Profession Comm</td>
<td></td>
</tr>
<tr>
<td>CS 1320</td>
<td>Computer Programming Sci/Engr</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1411</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>ECE 1300</td>
<td>Intro to Elect/Comp Eng and Lab for ECE 1300</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td><strong>Spring</strong></td>
<td></td>
</tr>
<tr>
<td>HIST 1301</td>
<td>History of U.S. to 1865</td>
<td>3</td>
</tr>
<tr>
<td>RWS 1302</td>
<td>Rhetoric &amp; Composition 2</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 2320</td>
<td>Introductory Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>&amp; PHYS 2120</td>
<td>and Laboratory for PHYS 2320</td>
<td></td>
</tr>
<tr>
<td>ECE 2303</td>
<td>Digital Systems Design I</td>
<td>4</td>
</tr>
<tr>
<td>&amp; ECE 2103</td>
<td>and Lab for ECE 2303</td>
<td></td>
</tr>
<tr>
<td>MATH 1312</td>
<td>Calculus II</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>SOPHOMORE</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Fall</strong></td>
<td></td>
</tr>
<tr>
<td>CE 2326</td>
<td>Econ for Engrs &amp; Scientists</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 2321</td>
<td>Introductory Electromagnetism</td>
<td>3</td>
</tr>
<tr>
<td>&amp; PHYS 2121</td>
<td>and Laboratory for PHYS 2321</td>
<td></td>
</tr>
<tr>
<td>ECE 2300</td>
<td>Software Design I</td>
<td>3</td>
</tr>
<tr>
<td>ECE 2301</td>
<td>Electric Circuits I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 2326</td>
<td>Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Spring</strong></td>
<td></td>
</tr>
<tr>
<td>HIST 1302</td>
<td>History of U.S. Since 1865</td>
<td>3</td>
</tr>
<tr>
<td>ECE 2302</td>
<td>Electric Circuits II</td>
<td>3</td>
</tr>
<tr>
<td>&amp; ECE 2102</td>
<td>and Lab for ECE 2302</td>
<td></td>
</tr>
<tr>
<td>ECE 2304</td>
<td>Microprocessor Systems I</td>
<td>3</td>
</tr>
<tr>
<td>&amp; ECE 2104</td>
<td>and Lab for ECE 2304</td>
<td></td>
</tr>
<tr>
<td>ECE 3331</td>
<td>Discrete Time Signals &amp; Sys</td>
<td>3</td>
</tr>
<tr>
<td>MATH 2313</td>
<td>Calculus III</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>JUNIOR</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Fall</strong></td>
<td></td>
</tr>
<tr>
<td>ECE 3341</td>
<td>Electronics I</td>
<td>4</td>
</tr>
<tr>
<td>&amp; ECE 3141</td>
<td>and Lab for ECE 3341</td>
<td></td>
</tr>
<tr>
<td>ECE 2331</td>
<td>Cont. Time Signals &amp; Systems</td>
<td>3</td>
</tr>
<tr>
<td>ECE 3343</td>
<td>Applied Quantum Mech for EE</td>
<td>3</td>
</tr>
<tr>
<td>ECE 3320</td>
<td>Electromagnetic Field Theory</td>
<td>3</td>
</tr>
<tr>
<td>MATH 3323</td>
<td>Matrix Algebra</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Spring</strong></td>
<td></td>
</tr>
<tr>
<td>Creative Arts (Core)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>ECE 3344</td>
<td>Fund. of Semiconductor Dev</td>
<td>3</td>
</tr>
<tr>
<td>ECE 3100</td>
<td>Junior Prof. Orientation</td>
<td>1</td>
</tr>
<tr>
<td>ECE 3342</td>
<td>Electronics II</td>
<td>3</td>
</tr>
<tr>
<td>ECE 3332</td>
<td>Prob with App Elect/Comp Eng</td>
<td>3</td>
</tr>
<tr>
<td>Select Science or Math</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>SENIOR</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Fall</strong></td>
<td></td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>POLS 2310</td>
<td>Introduction to Politics</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Language, Philosophy, and</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Culture (Core)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Choose Experiential Learning</td>
<td>1</td>
</tr>
<tr>
<td>ECE 4203</td>
<td>EE Capstone Project Lab I</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Choose ECE Option courses</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Choose ECE Option courses</td>
<td>3</td>
</tr>
<tr>
<td><strong>Spring</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECE 4204</td>
<td>EE Capstone Project Lab II</td>
<td>2</td>
</tr>
<tr>
<td>POLS 2311</td>
<td>American Gover &amp; Politics</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Choose ECE Option courses</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Choose ECE Option courses</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Professional Option</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Hours</strong></td>
<td></td>
<td><strong>128</strong></td>
</tr>
</tbody>
</table>