## Department of Electrical Engineering and Computer Science

### Electrical- Power & Energy Systems Concentration Catalog 2023

#### Fall

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>COSC 101</td>
<td><strong>Vol Core (3)</strong> FA, SP, SU</td>
</tr>
<tr>
<td>ECE 325</td>
<td><strong>Social Science (SS)</strong></td>
</tr>
<tr>
<td>ECE 211</td>
<td><strong>Technical Elective (3)</strong> FA, SP, SU</td>
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<tr>
<td>ECE 342</td>
<td><strong>Power Elective (3)</strong> FA, SP</td>
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<tr>
<td>ECE 315</td>
<td>With Prereq: ECE 201, Math 142/148 with C or better</td>
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<tr>
<td>ECE 415</td>
<td><strong>Senior Elective (3)</strong> FA, SP</td>
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</tbody>
</table>

#### Spring

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>COSC 102</td>
<td><strong>Engaged Inquiry (EI)</strong> FA, SP, SU</td>
</tr>
<tr>
<td>ECE 335</td>
<td><strong>Expanding Perspectives</strong></td>
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<tr>
<td>ECE 255</td>
<td><strong>Global Citizenship International (GCI)</strong></td>
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<tr>
<td>ECE 401</td>
<td><strong>Serving Society</strong></td>
</tr>
<tr>
<td>ECE 315</td>
<td>With Prereq: ECE 201, Math 142/148 with C or better</td>
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<tr>
<td>ECE 402</td>
<td><strong>Global Citizenship (United States (GCU))</strong></td>
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<tr>
<td>ECE 325</td>
<td><strong>Global Citizenship: International (DCI)</strong></td>
</tr>
<tr>
<td>ECE 400</td>
<td><strong>Expanding Perspectives</strong></td>
</tr>
</tbody>
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### Notes
- Assumes Core Courses: ECE 201, Math 142/148, and Math 241 or 247.
- Core Elective should be selected with care to ensure a balanced curriculum.
- Students should consult with their advisors for specific course recommendations.
- Prerequisites and corequisites are mandatory.
- Students are encouraged to consult with their advisors for course selection.

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**Instructional Emphasis:**
- **Core Courses:** Designed to provide a strong foundation in electrical engineering and computer science.
- **Technical Electives:** Offered to enhance students' knowledge and skills in specialized areas.
- **Global Citizenship International (GCI):** Focused on international perspectives and global understanding.
- **Expanding Perspectives:** Emphasizes cultural diversity and global engagement.
- **Serving Society:** Encourages students to contribute their expertise to societal needs.

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**Course Descriptions:**
- **ECE 201:** Computer Engineering 1: Design Fundamentals
- **ECE 255:** Problem Solving and Design (ECE 255)
- **ECE 315:** Circuit Analysis (ECE 315)
- **ECE 415:** Senior Design (ECE 415)

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**Additional Information:**
- Students are encouraged to consult with their advisors for course selection.
- Prerequisites and corequisites are mandatory.
- Students should consult with their advisors for specific course recommendations.

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**Honors Program:**
- Eligibility criteria: 
  - GPA of 3.5 or higher
  - Strong academic performance

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**Course Requirements:**
- **Core Courses:** Essential for all students.
- **Technical Electives:** Offered to enhance students' knowledge and skills in specialized areas.
- **Global Citizenship:** Emphasizes cultural diversity and global engagement.
- **Expanding Perspectives:** Encourages students to contribute their expertise to societal needs.

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**Volunteer Core Courses:**
- Offered to enhance students' community service and leadership skills.

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**Honors Electives:**
- **ECE 415:** Senior Design (ECE 415)
- **ECE 421:** Senior Design (ECE 421)
- **ECE 481:** Senior Design (ECE 481)

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**Graduation Requirements:**
- **Minimum Credits:** 120
- **GPA:** 3.0 or higher
- **Technical Electives:** Offered to enhance students' knowledge and skills in specialized areas.

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**Elective Requirements:**
- **Technical Electives:** Offered to enhance students' knowledge and skills in specialized areas.

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**Program Learning Outcomes:**
- **Critical Thinking:**
  - Analyze complex technical problems
  - Present solutions to technical problems
- **Professional Skills:**
  - Effective communication skills
  - Teamwork and collaboration

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**University Honors Program:**
- Eligibility criteria: 
  - GPA of 3.5 or higher
  - Strong academic performance