# Computer Engineering

## Department Information

- **Department Web Site:**
  
  www.ndsu.edu/ece/ (http://www.ndsu.edu/ece/)

- **Credential Offered:**
  
  B.S.Cpr.E.

- **Official Program Curriculum:**
  
  catalog.ndsu.edu/undergraduate/program-curriculum/computer-engineering/ (http://catalog.ndsu.edu/undergraduate/program-curriculum/computer-engineering/)

## First Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
<th>Spring</th>
<th>Credits</th>
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<tbody>
<tr>
<td>MATH 105</td>
<td>1</td>
<td>3 MATH 165</td>
<td>4</td>
</tr>
<tr>
<td>CSCI 160</td>
<td>1,4</td>
<td>4 MATH 129</td>
<td>3</td>
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<tr>
<td>CHEM 121</td>
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<td>3 CSCI 161</td>
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<tr>
<td>COMM 110</td>
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<td>3 ECE 111</td>
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<td>ENGL 110</td>
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<td>3 ENGL 120</td>
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## Second Year

<table>
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<th>Fall</th>
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<tbody>
<tr>
<td>MATH 166</td>
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<td>EE 206</td>
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<td>4 PHYS 251</td>
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<td>ECE 275</td>
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<td>4 CSCI 222</td>
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<tr>
<td>GEN ED Wellness</td>
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<td>2 ECE 311</td>
<td>4</td>
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<tr>
<td>GEN ED Science Lab</td>
<td>CHEM 121L or PHYS 251L</td>
<td>1 GEN ED Social/Behavioral Science and Global Perspective</td>
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## Third Year

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<th>Spring</th>
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<tbody>
<tr>
<td>MATH 266</td>
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<td>3 ECE 401</td>
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<td>ECE 320</td>
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<td>3 ECE 374</td>
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<tr>
<td>ECE 375</td>
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<td>3 CpE Core</td>
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<tr>
<td>GEN ED Humanities/Fine Arts and Cultural Diversity</td>
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<td>3 Tech Elective</td>
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## Fourth Year

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<th>Spring</th>
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<tr>
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<td>2 ECE 405</td>
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<td>ECE 341</td>
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<td>3 GEN ED Social/Behavioral Science</td>
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This course requires a student to earn a "C" or better, in order to take upper level ECE courses.

Choose from the approved Tech Elective List.

CpE Core Options:
1. **ECE 474 Computer Architecture** (prereq: ECE 374)
2. **ECE 477 Hardware design for Machine Learning** (prereqs: ECE 374 and ECE 375)
3. **ECE 423 VLSI Design** (prereqs: ECE 311 and ECE 321)
4. **ECE 425 Intro to Semiconductors** (prereqs: ECE 320)
5. **CSCI 474 Operating System Concepts** (prereqs: CSCI 374)
6. **CSCI 467 Algorithm Analysis** (prereqs MATH 166, CSCI 161 and CSCI 222 or MATH 270)

ECE 173 is also an approved course for this requirement.