

# Computer Engineering

## Department Information

- **Department Web Site:**  
[www.ndsu.edu/ece/](http://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/) (<http://catalog.ndsu.edu/undergraduate/program-curriculum/computer-engineering/>)

<b>First Year</b>			
<b>Fall</b>	<b>Credits</b>	<b>Spring</b>	<b>Credits</b>
MATH 098 <sup>1</sup>		3 MATH 103 <sup>1</sup>	3
ENGL 110		3 CHEM 121	3
COMM 110		3 ENGL 120	3
GEN ED Wellness		2 ECE 111	3
GEN ED Social/Behavioral Science and Global Perspective		3	
		<b>14</b>	<b>12</b>
<b>Second Year</b>			
<b>Fall</b>	<b>Credits</b>	<b>Spring</b>	<b>Credits</b>
MATH 105 <sup>1</sup>		3 MATH 165 <sup>1</sup>	4
MATH 129 <sup>1</sup>		3 CSCI 161	4
CSCI 160 <sup>1</sup>		4 CSCI 222	3
GEN ED Humanities/Fine Arts and Cultural Diversity		3 ECE 275 <sup>1</sup>	4
		GEN ED Science Lab (CHEM 121L or PHYS 251L)	1
		<b>13</b>	<b>16</b>
<b>Third Year</b>			
<b>Fall</b>	<b>Credits</b>	<b>Spring</b>	<b>Credits</b>
MATH 166 <sup>1</sup>		4 MATH 265 <sup>1</sup>	4
EE 206 <sup>1</sup>		4 PHYS 251	4
ECE 375		3 ECE 320	3
ENGR 327		3 ECE 311	4
GEN ED Upper Level English		3	
		<b>17</b>	<b>15</b>
<b>Fourth Year</b>			
<b>Fall</b>	<b>Credits</b>	<b>Spring</b>	<b>Credits</b>
MATH 266 <sup>1</sup>		3 ECE 403	2
ECE 376		4 ECE 341	3
ECE 374		4 CpE Core <sup>3</sup>	3
ECE 343		4 CpE Core <sup>3</sup>	3
ECE 401		1 ECE Elective	3
ECE Elective		3	
		<b>19</b>	<b>14</b>

<b>Fifth Year</b>	
<b>Fall</b>	<b>Credits</b>
ECE 405	3
CpE Core <sup>3</sup>	3
CpE Core <sup>3</sup>	3
Tech Elective <sup>2</sup>	3
GEN ED Social/Behavioral Science	3
	<b>15</b>

**Total Credits: 135**

1

1. This course requires the student to earn a "C" or better, in order to take upper level ECE courses.

2

Choose from the approved Tech Elective List.

3

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)