

# 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/) (<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 105 <sup>1</sup>		3 MATH 165 <sup>1</sup>	4
CSCI 160 <sup>1</sup>		4 MATH 129 <sup>1</sup>	3
CHEM 121		3 CSCI 161	4
COMM 110		3 ECE 111	3
ENGL 110		3 ENGL 120	3
		<b>16</b>	<b>17</b>
<b>Second 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 275 <sup>1</sup>		4 CSCI 222	3
GEN ED Wellness		2 ECE 311	4
GEN ED Science Lab (CHEM 121L or PHYS 251L)		1 GEN ED Social/Behavioral Science and Global Perspective	3
		<b>15</b>	<b>18</b>
<b>Third Year</b>			
<b>Fall</b>	<b>Credits</b>	<b>Spring</b>	<b>Credits</b>
MATH 266 <sup>1</sup>		3 ECE 401	1
ECE 320		3 ECE 374	4
ECE 376		4 ECE 343	4
ECE 375		3 CpE Core <sup>3</sup>	3
GEN ED Humanities/Fine Arts and Cultural Diversity		3 Tech Elective <sup>2</sup>	3
		<b>16</b>	<b>15</b>
<b>Fourth Year</b>			
<b>Fall</b>	<b>Credits</b>	<b>Spring</b>	<b>Credits</b>
ECE 403		2 ECE 405	3
ECE 341		3 CpE Core <sup>3</sup>	3
ENGR 327		3 CpE Core <sup>3</sup>	3
CpE Core <sup>3</sup>		3 ECE Elective	3
ECE Elective		3 GEN ED Social/Behavioral Science	3

GEN ED Upper Level English	3	
	17	15

**Total Credits: 129**

1

This course requires a 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)