

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 | | | |
|----------------------------|----------------|---|----------------|
| Fall | Credits | Spring | Credits |
| MATH 103 ¹ | | 3 MATH 105 ¹ | 3 |
| CHEM 121 | | 3 ECE 111 | 3 |
| ENGL 110 | | 3 ENGL 120 | 3 |
| COMM 110 | | 3 GEN ED Social/Behavioral Science and Global Perspective | 3 |
| GEN ED Wellness | | 2 GEN ED Science Lab (CHEM 121L or PHYS 251L) | 1 |
| | | 14 | 13 |
| Second Year | | | |
| Fall | Credits | Spring | Credits |
| MATH 165 ¹ | | 4 MATH 166 ¹ | 4 |
| MATH 129 ¹ | | 3 EE 206 ¹ | 4 |
| CSCI 160 ¹ | | 4 CSCI 161 | 4 |
| ECE 275 ¹ | | 4 ECE 375 | 3 |
| CSCI 222 | | 3 GEN ED Humanities/Fine Arts and Cultural Diversity | 3 |
| | | 18 | 18 |
| Third Year | | | |
| Fall | Credits | Spring | Credits |
| MATH 265 ¹ | | 4 ECE 401 | 1 |
| PHYS 251 | | 4 MATH 266 | 3 |
| ECE 311 | | 4 ECE 320 | 3 |
| Tech Elective ² | | 3 ECE 343 | 4 |
| GEN ED Upper Level English | | 3 GEN ED Social/Behavioral Science | 3 |
| | | 18 | 14 |
| Fourth Year | | | |
| Fall | Credits | Spring | Credits |
| ECE 403 | | 2 ECE 405 | 3 |
| ECE 376 | | 4 ECE 341 | 3 |
| ECE 374 | | 4 CpE Core ³ | 3 |
| ENGR 327 | | 3 CpE Core ³ | 3 |
| ECE Elective | | 3 CpE Core ³ | 3 |

| | | |
|-----------------------|----------------|-----------|
| CpE Core ³ | 3 ECE Elective | 3 |
| | 19 | 18 |

Total Credits: 132

1

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

2

Choose from the approved Technical 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)