

COMPUTER ENGINEERING

Curriculum Guide effective Fall 2017 ~ North Dakota State University

STUDENT:

ID #:

ADVISOR:

| | Fall | | | | | Spring | | | | |
|-----------------------|------------------------------|--------------------------|-------|--------|------------------------------|------------------------------|------------------------|------------|--------|--|
| | Course | Crs | Grade | Gen Ed | Course | Crs | Grade | Gen Ed | | |
| Freshman (<27 crs) | CHEM 121 | General Chemistry I | 3 | S | ECE 111 ^v | Intro to ECE | 3 | | | |
| | Wellness Elec | 0 | 2 | 0 | W | ENGL 120 | College Composition II | 3 | C | |
| | ECE 173 | Intro to Computing | 4 | S | MATH 129 | Basic Linear Algebra | 3 | | | |
| | ENGL 110 | College Composition I | 4 | C | MATH 166 | Calculus II | 4 | | | |
| | MATH 165 | Calculus I | 4 | R | PHYS 251 | Univ Physics I | 4 | | S | |
| | | | 17 | | | | 17 | | | |
| Sophomore (27-59 crs) | EE 206 | Circuit Analysis I/lab | 4 | | COMM 110 | Fund Public Speaking | 3 | | C | |
| | MATH 265 | Calculus III (w/vectors) | 4 | | ECE 320 | Electronics I/lab | 3 | | | |
| | CSCI 222 | Discrete Math | 3 | | MATH 266 | Intro Differential Equations | 3 | | | |
| | ECE 275 | Digital Design/lab | 4 | | ECE 374 | Computer Org/lab | 4 | | | |
| | Science Lab | 0 | 1 | 0 | L | CSCI 161 | Computer Science II | 4 | | |
| | | | 16 | | | | 17 | | | |
| Junior (60 - 89 crs) | CSCI 413 | Software Engineering | 3 | | ECE 341 | Random Processes | 3 | | | |
| | ECE 343 | Signals & Systems | 4 | | ECE 401 | Design I (capstone) | 1 | | | |
| | CSCI 459 | Computer Networks | 3 | | ECE 376 | Embedded Systems/lab | 4 | | | |
| | ENGR 402 | Engr Ethics/Social Resp | 1 | | CSCI 474 | Operating Syst. Concepts | 3 | | | |
| | ECE 474 | Computer Architecture | 3 | | ECE 475 | Adv. Digital Design/lab | 4 | | | |
| | | | 14 | | | | 15 | | | |
| Senior (90 + crs) | ECE 403 | Design II (capstone) | 2 | | ECE 405 | Design III (capstone) | 3 | | | |
| | ENGL | Upper Level Writing* | 3 | C | ECE Elective | or CSCI 467: Alg. Analysis | 3 | | | |
| | ECE Elective | | 3 | | Gen Ed Elective [†] | 0 | 3 | 0 | A or B | |
| | Tech Elective | | 3 | | Gen Ed Elective | 0 | 3 | 0 | A or B | |
| | Gen Ed Elective ^x | 0 | 3 | 0 | A or B | Tech Elective | | 3 | | |
| | Gen Ed Elective [‡] | 0 | 3 | 0 | A or B | | | | | |
| | | | 17 | | | | 15 | | | |
| TOTAL CREDITS | | | | | | | | 128 | | |

| General Education Electives | | | |
|---|----------------------------------|-----|-------|
| <i>Approved courses listed in the registration schedule centerfold.</i> | | | |
| Gen Ed | Course | Crs | Grade |
| A | | 3 | |
| A | | 3 | |
| B | | 3 | |
| B | | 3 | |
| D ■ | (double-count with A or B above) | | |
| G ● | (double-count with A or B above) | | |
| L | | 1 | |
| W | | 2 | |

General Education Categories:

- A - Humanities/Fine Arts
- B - Social/Behavioral Sciences
- C - Communication
- D - Cultural Diversity ■
- F - First-Year Experience
- G - Global Perspectives ●
- L - Co-requisite Lab
- R - Quantitative Reasoning
- S - Science & Technology
- W - Wellness

[¥]Suggested to take either ECON 105, ECON 201, or ECON 202

*Select from ENGL 320, 321, 324 or 459 to satisfy the Upper Level Writing for General Education

[‡]Suggested to take ENGR 312 and ENGR 311

ECE Elective: any didactic ECE 4xx course², (not x93, 494, 496)

Tech Elective: any didactic 4xx course from ECE or CSCI², or any of the following: CSCI 336, CSCI 366, CSCI 372, ECE 311, ECE 321, ECE 351, ECE x93, ECE 494, ECE 496 (max 3 credits), ENGR 310, PHYS 252, IME 440, IME 456, IME 460, IME470

^vStudents must take ECE 111 prior to enrolling in ECE courses listed above in the Junior or Senior years; otherwise, student must take an additional ECE Elective in lieu of ECE 111

Students must earn a "C" or better in ECE 173, ECE 275, EE 206, and all required MATH courses, before enrolling in ECE courses listed above in the Junior or Senior years

¹ Students must have at least a 2.0 GPA in all required EE and ECE courses taken at NDSU, in order to graduate. Elective ECE courses are not included in this GPA requirement.

² See <http://bulletin.ndsu.edu/course-catalog/descriptions/ece/> and <http://bulletin.ndsu.edu/course-catalog/descriptions/csci/> for the full list of ECE and CSCI courses, respectively.

COMPUTER ENGINEERING ELECTIVES

1510-1530

TECH ELECTIVES: any didactic 4xx-level course from ECE or CSCI, or any of the following:

CSCI 335
CSCI 336
CSCI 366
CSCI 372
ECE 311
ECE 321**
ECE 351
ECE 494
ECE 496 (max 3 credits)
Engr 310
PHYS 252
IME 440
IME 456
IME 460
IME 470

** If you have already taken ECE 321 when it was a 5-credit course, only 3 credits are needed for CpE majors. The remaining 2 credits will count towards the 6-credit Tech Elective requirement. The new ECE 321 is 2 credits as of Fall 2014. -

ECE ELECTIVES FOR COMPUTER ENGINEERING MAJORS

Any ECE 4xx-level course, **excluding** ECE 494 and ECE 496.

Computer Engineering Curriculum Flowchart

