

COMPUTER ENGINEERING

B.S. Degree Requirements
134 Credits

GENERAL REQUIREMENTS

COMMUNICATIONS:- (9)

Engl 111X (3) _____
Engl 211X OR 213X (3) _____
Comm 131X OR 141X (3) _____

ARTS, HUMANITIES, SOCIAL SCIENCES, ETHICS:- (18 – 22)

Complete 6 courses from the list given in the catalog under Summary of Bachelor's Degree Requirements, in the following categories: (to access, go to:

<https://goo.gl/8W1S1u> or

<http://catalog.uaf.edu/bachelors/summary-of-bachelors-degree-reqs/>

and click on Bachelor of Science)

Arts (3) _____
Humanities (3-5) _____
Social Sciences (3) _____
Social Sciences (3) _____
Arts, Humanities or Social Sciences (3-5) _____
Ethics (3) _____

MATHEMATICS:- (18)

Math 251X (4) _____ Math 302 (3) _____
Math 252X (4) _____ Math 307 (3) _____
Math 253X (4) _____

NATURAL SCIENCE:- (16)

Chem 105X (4) _____
Phys 211X (4) _____
Phys 212X (4) _____
Chem 106X OR Phys 213X (4) _____

LIBRARY INFORMATION & RESEARCH:- (0 – 1)

LS competency test _____ OR
LS 101X (1) _____

COMPLETE 2 DESIGNATED (W) COURSES AND
1 DESIGNATED (O) COURSE OR 2 COURSES
DESIGNATED (O/2) AT THE UPPER DIVISION LEVEL:

_____ (W) AND _____ (W)
_____ (O) OR
_____ (O/2) AND _____ (O/2)

UPPER DIVISION CREDITS:- (39)

Transfer Credits _____
UAF Credits (24)* _____
TOTAL TO DATE: _____
TO BE COMPLETED: _____

*a minimum of 24 UAF credits

(CMER)

PLEASE NOTE: Grades of 'C-' or better are required for all courses.

MAJOR REQUIREMENTS:

1. Complete the following:- (64)

CS 201 (3) _____
CS 202 (3) _____
CS 301 (3) _____
CS 311 (3) _____
CS 321 (3) _____
CS 331 (3) _____
EE 102 (3) _____
EE 203 (4) _____
EE 204 (4) _____
EE 311 (3) _____
EE 331 (1) _____
EE 333 (4) _____ (W)
EE 343 (4) _____
EE 353 (3) _____
EE 354 (3) _____
EE 443 (4) _____
EE 444 (4) _____ (W, O)
EE 463 (3) _____
ES 101 (3) _____
ESM 450 (3) _____ (W)

2. Complete 6 300/400-level credits of approved electives.
The following are recommended:

EE 334 (4) _____ CS 361 (3) _____
EE 434 (4) _____ (W,O) CS 381 (3) _____
EE 451 (4) _____ CS 411 (3) _____
EE 461 (4) _____ CS 421 (3) _____ (W)
EE 464 (4) _____ (W,O) CS 431 (3) _____ (W)
EE 471 (3) _____ CS 471 (3) _____ (W)
CS 472 (3) _____ (W,O)
CS 481 (3) _____

3. Complete 3 credits of approved engineering science from the following:

ES 208 (4) _____
ES 331 (3) _____
ES 341 (4) _____
ES 346 (3) _____
ME 334 (3) _____

E. Complete the Fundamentals of
Engineering Exam: _____

| | |
|--|---------|
| Credits for core/general requirements: | 61 – 62 |
| Credits required for major: | 73 |
| Total credits required for degree | 134 |

BACHELOR OF SCIENCE IN COMPUTER ENGINEERING

First Year: Fall

| | | |
|-----------|-------------------------------------|-----------|
| ENGL 111X | Methods of Communication | 3 |
| Math 251X | Calculus I | 4 |
| ES 101 | Intro to Engineering | 3 |
| CHEM 105 | General Chemistry | 4 |
| | Arts, Hum, Soc Sci, Ethics (1 of 6) | <u>3</u> |
| | | 17 |

First Year: Spring

| | | |
|------------------------|--------------------------------------|-----------|
| COMM 131X or COMM 141X | | 3 |
| MATH 252X | Calculus II | 4 |
| EE 102 | Intro to Electrical & Computer Engr. | 3 |
| CHEM 106 | General Chemistry | 4 |
| | Arts, Hum, Soc Sci, Ethics (2 of 6) | <u>3</u> |
| | | 17 |

Second Year: Fall

| | | |
|-------------------|------------------------------------|-----------|
| MATH 253X | Calculus III | 4 |
| PHYS 211 | General Physics | 4 |
| ENGL 211X or 213X | | 3 |
| CS 201 | Computer Science I | 3 |
| EE 203 | Fundamentals of Electrical Engr. I | <u>4</u> |
| | | 18 |

Second Year: Spring

| | | |
|----------|---|-----------|
| MATH 302 | Differential Equations | 3 |
| PHYS 212 | General Physics | 4 |
| EE 204 | Fundamentals of Electrical Engineering II | 4 |
| CS 202 | Computer Science II | 3 |
| | Arts, Hum, Soc Sci, Ethics (3 of 6) | 3 |
| LS 101X | Library Info and Research | <u>1</u> |
| | | 18 |

Third Year: Fall

| | | |
|---------|-------------------------------------|-----------|
| EE 333W | Physical Electronics | 4 |
| EE 343 | Digital Systems Analysis and Design | 4 |
| EE 353 | Circuit Theory | 3 |
| CS 301 | Assembly Language Programming | 3 |
| | Arts, Hum, Soc Sci, Ethics (4 of 6) | <u>3</u> |
| | | 17 |

Third Year: Spring

| | | |
|----------|---------------------------------------|-----------|
| MATH 307 | Discrete Mathematics | 3 |
| EE 354 | Engineering Signal Analysis | 3 |
| EE 443 | Computer Engineering Anal. and Design | 4 |
| CS 321 | Operating Systems | 3 |
| | Arts, Hum, Soc Sci, Ethics (5 of 6) | <u>3</u> |
| | | 16 |

Fourth Year: Fall

| | | |
|--------|---------------------------------------|-----------|
| EE 311 | Applied Engineering Electromagnetics | 3 |
| EE 331 | High Frequency Lab | 1 |
| CS 311 | Data Structures and Algorithms | 3 |
| | Approved Engineering Science Elective | 3 |
| | Approved EE or CS Elective | 3 |
| | Arts, Hum, Soc Sci, Ethics (6 of 6) | <u>3</u> |
| | | 16 |

Fourth Year: Spring

| | | |
|----------|-------------------------------------|-------------|
| ESM 450 | Econ. Analysis & Operations | 3 |
| EE 463 | Communication Networks | 3 |
| EE 444WO | Embedded Systems Design | 4 |
| CS 331 | Programming Languages | 3 |
| | Approved EE or CS Elective | 3 |
| | Take the Fundamentals of Engr. Exam | <u> </u> |
| | | 16 |