COMPUTER ENGINEERING
B.S. Degree Requirements
134 Credits

GENERAL REQUIREMENTS

COMMUNICATIONS: - (9)
WRTG 111X (3)
WRTG 211X, 212X, 213X, OR 214X (3) one required
COJO 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 252X (4)
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)

___________________________________________(W)

___________________________________________(O)

___________________________________________(O/2)

___________________________________________(O/2)

UPPER DIVISION CREDITS: - (39)
Transfer Credits
UAF Credits (24)*
TOTAL TO DATE:
TO BE COMPLETED:

* a minimum of 24 UAF credits

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

MAJOR REQUIREMENTS:

A. 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)

B. 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 411 (3)
EE 451 (4) CS 421 (3) (W)
EE 461 (4) CS 471 (3) (W)
EE 471 (3) CS 472 (3) (W,O)
Or courses approved by dept. advisor (3-4)

C. 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)

D. Complete the Fundamentals of Engineering Exam:

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

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### BACHELOR OF SCIENCE IN COMPUTER ENGINEERING

#### First Year: Fall
- WRTG 111X  Writing Across Contexts  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)  3
  - **Total: 17**

#### Second Year: Fall
- MATH 253X  Calculus III  4
- PHYS 211  General Physics  4
- WRTG 211X/212X/213X/214X (one required)  3
- CS 201  Computer Science I  3
- EE 203  Fundamentals of Electrical Engr. I  4
  - **Total: 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)  3
  - **Total: 17**

#### 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)  3
  - **Total: 16**

#### First Year: Spring
- COJO 131X or COJO 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)  3
  - **Total: 17**

#### 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  1
  - **Total: 18**

#### 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)  3
  - **Total: 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  0
  - **Total: 16**

- **EE or CS Electives - choose 2**
- **ES Elective - choose 1**
  - EE 334  ES 208
  - EE 434  ME 334
  - EE 451  ES 346
  - EE 461  ES 331  has ES prerequisites
  - EE 464  ES 341  has ES prerequisites
  - EE 471  
  - CS 361  
  - CS 411  
  - CS 421  
  - CS 471  
  - CS 472  

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