ELECTRICAL ENGINEERING
B.S. Degree Requirements
134 Credits

GENERAL REQUIREMENTS

COMMUNICATIONS:-- (9)
Engl 111X (3)________
Engl 211X OR 213X (3)
Comm 131X OR 141X (3)____

PERSPECTIVES ON THE HUMAN CONDITION:-- (18 – 22)
Complete 6 courses listed OR 4 of those listed
plus 2 semester length courses in a single AK Native or
other non-English language or 3 semester length courses
(9 credits) in American Sign Language.

Anth 100X/Soc 100X (3) ______
Econ/PS 100X (3)________
Hist 100X (3)________
Art/Mus/Thr 200X OR Hum 201X OR Ans 202X (3) ______
Engl/Fl 200X (3)________
BA 323X OR Comm 300X OR Just 300X OR
Nrm 303X OR Phil 322X OR PS 300X (3) ______

Language option as listed above:
( )__ ( )__ ( )__ ( )__

MATHEMATICS:-- (18)
Math 200X or 251X (4) ______ Math 202X or 253X (4) ______
Math 201X or 252X (4) ______ Math 302 (3)________

1 course from:
Math 310 (3) ______ Math 314 (3) ______
Math 371 (3) ______ Math 401(W) (3) ______
Math 421 (4) ______ Math 422 (4) ______

NATURAL SCIENCE:-- (16)
Chem 105X (4)________
Phys 211X (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

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

MAJOR REQUIREMENTS:

A. Complete the following:-- (40)
EE 102 (3)_____ EE 333 (W) (4)_____
EE 203 (4)_____ EE 334 (4)_____
EE 204 (4)_____ EE 343 (4)_____
EE 303 (4)_____ EE 353 (3)_____
EE 311 (3)_____ EE 354 (3)_____
EE 331 (1)_____ EE 471 (3)_____

B. Complete at least 6 credits of Design and Tech. electives.
Design electives (complete one):
EE 408 (4) (W,O)_____
EE 444 (4) (W,O)_____
EE 464 (4) (W,O)_____

Tech. Elective (any upper division EE course EXCEPT 341):
EE ______________ ( ) ______ (elective)

C. Complete the following:-- (16-18)
ES 101 (3)_____
ES 201 or CS 201 (3)_____
ES 208 (4)_____ OR
ES 209 (3)_____
AND ES 210 (3)_____
ES 331,341,346 OR
ME 334 (3)_____
ESM 450 (3) (W)_____

D. Complete 1 concentration:-- (11-12)

Communications:
EE 412 (3)_____
EE 432 (1)_____
EE 461 (4)_____
ES 331,341,346 OR
ME 334 (3)+_____

Power & Control:
EE 404 (4)_____
EE 406 (4)_____
ES 331,341,346 OR
ME 334 (3)+_____

*Course may not satisfy the same requirement under "C"

Computer Engineering:
EE 443 (4)_____
EE 451 (4)_____
EE 461 (4)_____

E. Complete the Fundamentals of
Engineering Exam: _____

Credits for core/general requirements: 61 – 62
Credits required for major: 73 – 77
Total credits required for degree 134
## Electrical Engineering Degree Plan

### FIRST YEAR: FALL
- Engl 111X: Intro to Academic Writing 3
- Math 200X or 251X: Calculus I 4
- ES 101: Intro to Engineering 3
- Chem 105: General Chemistry I 4
- Perspectives Core* (1 of 6) 3

Total: 17

### SECOND YEAR: FALL
- Math 202X or 253X: Calculus III 4
- Phys 211X: General Physics I 4
- ES 201 or CS 201: 3
- EE 203: Fund. of Elec. Engineering I 4
- Engl 211X or 213X: 3

Total: 18

### THIRD YEAR: FALL
- EE 333: Physical Electronics 4
- EE 353: Circuit Theory I 3
- Approved Math elective** 3
- Perspectives Core (3 of 6) 3

#### Option 1: Communications
- EE 311: Applied Eng. Electromagnetics 3
- EE 331: High Frequency Lab 1

#### Option 2: Power and Control
- EE 303: Electrical Machinery 4

#### Option 3: Computer Engineering
- EE 343: Digital Syst. Analysis & Design I 4

Total: 17

### FOURTH YEAR: FALL
- Perspectives Core (5 of 6) 3

#### Option 1: Communications
- Approved Engineering Science elective*** 3
- EE 303: Electrical Machinery 4
- EE 343: Digital Syst. Analysis & Design I 4
- EE 461: Communications Systems 4

#### Option 2: Power and Control
- Approved Engineering Science elective*** 3
- EE 311: Applied Eng. Electromagnetics 3
- EE 331: High Frequency Lab 1
- EE 406: Electrical Power Engineering 4
- EE 434: Digital Syst. Analysis & Design I 4

#### Option 3: Computer Engineering
- EE 303: Electrical Machinery 4
- EE 311: Applied Eng. Electromagnetics 3
- EE 331: High Frequency Lab 1
- EE 451: Digital Signal Processing 4
- EE 461: Communications Systems 4

Total: 18-19

### FIRST YEAR: SPRING
- Comm 131X or 141X: Oral Communication 3
- Math 201X or 252X: Calculus II 4
- EE 102: Intro to Electrical & Computer Engr. 3
- Chem 106: General Chemistry II 4
- Perspectives Core (2 of 6) 3

Total: 17

### SECOND YEAR: SPRING
- Math 302: Differential Equations 3
- Phys 212X: General Physics II 4
- ES 208: Mechanics 4
- EE 204: Fund. of Elec. Engineering II 4
- LS 101X: Library Info and Research 1

Total: 16

### THIRD YEAR: SPRING
- EE 334: Electronic Circuit Design 4
- EE 354: Engineering Signal Analysis 3
- Perspectives Core (4 of 6) 3
- EE 471: Fund of Automatic Controls 3

#### Option 1: Communications
- EE 412: Electromagnetic Waves & Devices 3
- EE 432: Electromagnetics Lab 1

#### Option 2: Power and Control
- EE 404: Electrical Power Systems 4

#### Option 3: Computer Engineering
- EE 443: Digital Syst. Analysis & Design II 4

Total: 17

### FOURTH YEAR: SPRING
- ESM 450: Economic Analysis and Operations 3
- Perspectives Core (6 of 6) 3
- Approved ES Elective*** 3
- Approved EE Elective 3-4
- Approved EE Design Elective 3-4
- Take the Fundamentals of Engr. Exam 1

Total: 15-17

* Perspectives on the Human Condition and ES 201 may be interchanged if student's mathematics preparation allows.

** Mathematics elective to be chosen from the following advanced topics: linear algebra and matrices, probability and statistics, partial differential equations, numerical analysis, advanced calculus or complex variables.

*** Engineering science elective to be chosen from ES 331, ME 334, ES 341 and ES 346.