

2007-08 CATALOG

ELECTRICAL ENGINEERING

B.S. Degree Requirements
135 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 (3)
or Ans 202X (3)____
Engl/FI 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 (4)____ Math 202X (4)____
Math 201X (4)____ Math 302 (3)____
1 course from:
Math 310 (3)____ Math 314 (3)____
Math 371 (3)____ Math 401 (3)____(W)
Math 421 (4)____ Math 422 (4)____

NATURAL SCIENCE:- (16)

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

LIBRARY INFORMATION & RESEARCH:- (1)

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) OR _____(O/2)
_____(O/2)

UPPER DIVISION CREDITS:- (39)

Transfer Credits _____
UAF Credits (24)* _____
TOTAL TO DATE: _____
*a minimum of 24 UAF credits

(elee)

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

MAJOR REQUIREMENTS:

A. Complete the following:- (40)

E.E. 102 (3)____	E.E. 333 (4)____(W)
E.E. 203 (4)____	E.E. 334 (4)____
E.E. 204 (4)____	E.E. 343 (4)____
E.E. 303 (4)____	E.E. 353 (3)____
E.E. 311 (3)____	E.E. 354 (3)____
E.E. 331 (1)____	E.E. 471 (3)____

B. Complete at least 6 credits of Technical elective.

At least 1 course must come from the following:

E.E. 434 (4)____(W,O)
E.E. 464 (4)____(W,O)
E.E. _____ ()____(elective)
(Any upper division EE course EXCEPT 341 or 342.)

C. Complete the following:- (16-19)

E.S. 101 (3)____
E.S. 201 or CS 201 (3)____
E.S. 208 (4)____
OR ES 209 (3)____ AND ES 210 (3)____
E.S. 331,341,346 OR
ES/ME 334 (3/4)____
ESM 450 (3)____(W)

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

Communications:

E.E. 312 (3)____
E.E. 332 (1)____
E.E. 461 (4)____
E.S. 331,341,346 OR
ES/ME 334 (3/4)____+

Power & Control:

E.E. 404 (4)____
E.E. 406 (4)____
E.S. 331,341,346 OR
ES/ME 334 (3/4)____+
+Course may not satisfy the same requirement under "C"

Computer Engineering:

E.E. 443 (4)____
E.E. 451 (4)____
E.E. 461 (4)____

E. Complete the Fundamentals of Engineering Exam: _____

Credits for core/general requirements:	62
Credits required for major:	73-77
Total credits required for degree	135

Electrical Engineering Degree Plan

First Year: Fall

Engl 111X	Intro to Academic Writing	3
Math 200X	Calculus I	4
ES 101	Intro to Engineering	3
Chem 105	General Chemistry I	4
Perspectives Core (1 of 6)		3
		16

First Year: Spring

Comm 131X or 141X	Oral Communication	3
Math 201X	Calculus II	4
EE 102	Intro to Electrical Engineering	3
Chem 106	General Chemistry II	4
Perspectives Core (2 of 6)		3
		17

Second Year: Fall

Math 202X	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
		18

Second Year: Spring

Math 302	Differential Equations	3
Phys 212X	General Physics II	4
ES 208	Mechanics	4
EE 204	Fund of Elec Engineer II	4
LS 101X	Library Info and Research	1
		16

Third Year: Fall

EE 333	Physical Electronics	4
EE 353	Circuit Theory I	3
Approved Math elective**		3
Perspectives Core (3 of 6)		3
<i>Option 1: Communications</i>		
EE 311	Applied Eng. Electromagnetics	3
EE 331	High Frequency Lab	1
<i>Option 2: Power and Control</i>		
EE 303	Electrical Machinery	4
<i>Option 3: Computer Engineering</i>		
EE 343	Digital Syst. Analysis & Design I	4
		17

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
<i>Option 1: Communications</i>		
EE 312	Electromagnetic Waves & Devices	3
EE 332	Electromagnetics Lab	1
<i>Option 2: Power and Control</i>		
EE 404	Electrical Power Systems	4
<i>Option 3: Computer Engineering</i>		
EE 443	Digital Syst. Analysis & Design II	4
		17

Fourth Year: Fall

Perspectives Core (5 of 6)		3
<i>Option 1: Communications</i>		
Approved Engineering Science elective***		3
EE 303	Electrical Machinery	3
EE 343	Digital Syst. Analysis & Design I	4
EE 461	Communications Systems	4
<i>Option 2: Power and Control</i>		
Approved Engineering Science elective***		3
EE 311	Applied Eng. Electromagnetics	3
EE 331	High Frequency Lab	1
EE 406	Electrical Power Engineering	4
EE 343	Digital Syst. Analysis & Design I	4
<i>Option 3: Computer Engineering</i>		
EE 303	Electrical Machinery	3
EE 311	Applied Eng. Electromagnetics	3
EE 331	High Frequency Lab	1
EE 451	Digital Signal Processing	4
EE 461	Communications Systems	4
		17-18

Fourth Year: Spring

ESM 450	Economic Analysis and Operations	3
Perspectives Core (6 of 6)		3
Approved Engineering Science Elective***		3
Approved EE Elective		3-4
Approved EE Design Elective		3-4
Take State of Alaska Engineer-in-Training Exam		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.