

2004-05 CATALOG

GEOLOGICAL 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 the 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 (4)____ Math 202X (4)____
Math 201X (4)____ Math 302 (3)____
STAT 200(3)____

NATURAL SCIENCE:- (16)

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

LIBRARY & INFO SKILLS:- (1)

LS 101X (1)____

UPPER DIVISION CREDITS:- (39)

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

*a minimum of 24 UAF credits

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)

**Designates only grades of "C" or better may be used to fulfill this requirement.*

*MAJOR REQUIREMENTS

A. Complete the following:- (52)

G.E. 101 (1)____
G.E. 261 (3)____
G.E. 365 (3)____
G.E. 375 (3)____
G.E. 381 (2)____(W)
G.E. 382 (4)____(W)
G.E. 405 (4)____
G.E. 420 (3)____
G.E. 471 (3)____
G.E. 480 (3)____(W)
Geos 213 (4)____
Geos 214 (4)____
Geos 332 (3)____
Geos 421 (3)____
Min 202 (3)____
Min 370 (3)____
Min 408 (3)____

B. Complete 6 credits of approved Technical elective:

_____(3)____ _____(3)____

C. Complete the following

Engineering Science courses:- (14)

E.S. 201 (3)____
E.S. 208 (4)____
E.S. 331 (3)____
E.S. 341 (4)____

D. Must take the Fundamentals Of Engineering Exam.

EXAM TAKEN: _____

Must earn 'C' grades or better in A, B and C areas.

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| Credits for core/general requirements: | 62 |
| Credits required for major: | 72 |
| Total credits required for degree | 134 |

BACHELOR OF SCIENCE IN GEOLOGICAL ENGINEERING

First Year: Fall

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|--|----|
| GE 101-Intro to Geological Engineering | 1 |
| ENGL 111X-Meth.of Written Comm. | 3 |
| MATH 200X-Calculus I | 4 |
| CHEM 105X-General Chemistry | 4 |
| Perspectives Core (1 of 6) | 3 |
| | 15 |

First Year: Spring

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|--|----|
| COMM 131X or 141X | 3 |
| MATH 201X-Calculus II | 4 |
| GE 261-General Geology for Engineers | 3 |
| CHEM 106X-General Chemistry | 4 |
| LS 101X-Library Information & Research | 1 |
| | 15 |

Second Year: Fall

| | |
|--|----|
| MATH 202X-Calculus III | 4 |
| GEOS 213-Mineralogy | 4 |
| PHYS 211X-General Physics | 4 |
| ENGL 211X/213X-Intermediate Exposition | 3 |
| MIN 202-Mine Surveying | 3 |
| | 18 |

Second Year: Spring

| | |
|------------------------------------|----|
| ES 201-Computer Techniques | 3 |
| ES 208-Mechanics | 4 |
| PHYS 212X-General Physics | 4 |
| GEOS 214-Petrology and Petrography | 4 |
| Perspectives Core (2 of 6) | 3 |
| | 18 |

Third Year: Fall

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|--|----|
| ES 331-Mechanics of Materials | 3 |
| GE 365-Geological Materials Engineering | 3 |
| GE 375-Princ of Engr Geol & Terrain Anal | 3 |
| GEOS 421-Sedimentology | 3 |
| STAT 200-Elem. Probability & Statistics | 3 |
| | 15 |

Third Year: Spring

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|-------------------------------------|----|
| ES 341-Fluid Mechanics | 4 |
| GEOS 332-Ore Deposits and Structure | 3 |
| MATH 302-Differential Equations | 3 |
| MIN 370-Rock Mechanics | 3 |
| Perspectives Core (3 of 6) | 3 |
| | 16 |

Summer: After Third Year

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|---|---|
| GE 381- Field Methods and Applied Design I | 2 |
| GE 382- Field Methods and Applied Design II | 4 |
| | 6 |

Fourth Year: Fall

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|-------------------------------------|----|
| GE 405-Exploration Geophysics | 4 |
| GE 471-Remote Sensing For Engineers | 3 |
| Technical Electives | 3 |
| Perspectives Core (4 of 6) | 3 |
| Perspectives Core (5 of 6) | 3 |
| | 16 |

Fourth Year: Spring

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|---------------------------------------|----|
| GE 420-Subsurface Hydrology | 3 |
| GE 480-Senior Design | 3 |
| MIN 408-Mineral Valuation & Economics | 3 |
| Technical Electives | 3 |
| Perspectives Core (6 of 6) | 3 |
| | 15 |

Note:

Students must plan their elective courses in consultation with their mining engineering faculty advisor. Technical electives are selected from the list of the approved technical electives for mining engineering program and other programs course listing. All elective courses must be approved by the department head.