Petroleum Engineering

School of Mineral Engineering
Department of Petroleum Engineering
(907) 474-7734
www.uaf.edu/petrol/

B.S. Degree

Minimum Requirements for Degree: 134 credits

Petroleum engineering offers a unique look at the challenging problems confronting the petroleum industry. This program requires an understanding of many disciplines including mathematics, physics, chemistry, geology and engineering science. Courses in petroleum engineering deal with drilling, formation evaluation, production, reservoir engineering, computer simulation and enhanced oil recovery.

The curriculum prepares graduates to meet the demands of modern technology while emphasizing, whenever possible, the special problems encountered in Alaska. Located in one of the largest oil-producing states in the nation, the UAF petroleum engineering department offers one of the most modern and challenging degree programs available.

Major—B.S. Degree

1. Complete the general university requirements (page 106. As part of the core curriculum requirements, complete: MATH 200X, CHEM 103X, CHEM 106X, and LS 101X.)

2. Complete the B.S. degree requirements (page 112. As part of the B.S. degree requirements, complete: MATH 201X, PHYS 211X and PHYS 212X.)

3. Complete the following program (major) requirements:
   - **PETE 487A**—Postgraduate Studies for Petroleum Engineers
   - **PETE 489**—Petroleum Project Design
   - **PETE 481W**—Well Test Analysis
   - **PETE 487**—Petroleum Production Engineering
   - **PETE 487B**—Reservoir Rock and Fluids Laboratory
   - **PETE 487BW**—Reservoir Project Design
   - **PETE 487C**—Computer Simulation

4. Complete the following program (major) requirements:
   - MATH 202X—Calculus
   - MATH 302—Differential Equations
   - MATH 310—Numerical Analysis

5. Complete the Fundamentals of Engineering Exam (as approved by the Board of Architects, Engineers and Land Surveyors).

6. Minimum credits required: 134 credits

   * Student must earn a C grade or better in each course.
   ** PETE 487A is prerequisite for PETE 487B. Must take both courses to meet the oral communication and writing intensive requirements.
   *** As approved by advisor (e.g. CE 416 or ES 307).
   **** As approved by advisor (e.g. CE 603).

Note: Page numbers refer to the UAF 2004-2005 academic catalog, which can be viewed online at www.uaf.edu/catalog/.
**General University Requirements**

All degrees (e.g. B.A., B.S., etc.) require additional courses. Refer to specific degree and program requirements.

**COMMUNICATIONS (9)**
Complete the following:
- ENGL 111X ........................................ (3)  
- ENGL 211X OR 213X ......................... (3)  
- COMM 131X OR 141X ....................... (3)

**LIBRARY & INFORMATION SKILLS (0–1)**
Complete the following:
- LS 100X OR 101X .............................. (0-1)  
- OR Successful completion of library skills competency test.

**PERSPECTIVES ON THE HUMAN CONDITION (18)**
Complete either the following six courses:
- ANTH 100X OR SOC 100X .................. (3)  
- ECON/PS 100X .................................. (3)  
- HIST 100X ..................................... (3)  
- ART/MUS/THR 200X, HUM 201X OR ANS 202X ....... (3)  
- ENGL/FL 200X ................................. (3)  
- PHIL 322X, NRM 303X, COMM 300X,  
  PS 300X OR JUST 300X ................... (3)  
**OR** Complete 12 cr from the above list PLUS two semester-length courses in a single non-English or Alaska Native language at the university level **OR** three semester-length courses (9 cr) in American Sign Language.

**MATHEMATICS (3–4)**
Complete 3-4 credits from the following:
- MATH 107X ........................................ (3)  
- OR MATH 131X (except for BBA) ........... (3)  
- OR MATH 161X ................................. (3)  
- MATH 200X ..................................... (4)  
- MATH 201X ..................................... (4)  
- MATH 202X ..................................... (4)  
- MATH 262X ..................................... (4)  
- MATH 272X ..................................... (3)  
**NOTE:** Additional 3 cr of math needed for degree requirements.

**NATURAL SCIENCES (8)**
Complete 8 credits from the following:
- ATM 101X ........................................... (4)  
- BIOL 103X OR 104X ......................... (4)  
- BIOL 105X–106X ............................... (8)  
- BIOL 111X–112X ............................... (8)  
- CHEM 100X ...................................... (4)  
- CHEM 103X–104X ............................. (8)  
- CHEM 105X–106X ............................. (8)  
- GEOG 205X ...................................... (4)  
- GEO 100X OR 120X OR 125X ............... (4)  
- GEOS 101X–112X ............................. (8)  
- MSL 111X ........................................ (4)  
- PHYS 102X OR 175X .......................... (4)  
- PHYS 103X–104X ............................. (8)  
- PHYS 211X–212X ............................. (8)  
- PHYS 211X–213X ............................. (8)  
- PHYS 212X–213X ............................. (8)