Submit originals and one copy and electronic copy to Governance/Faculty Senate Office (email electronic copy to fysenat@uaf.edu)

PROGRAM/DEGREE REQUIREMENT CHANGE (MAJOR/MINOR)

SUBMITTED BY:

Department: PETE
Prepared by: Khataniar
Email Contact: skhataniar@alaska.edu

College/School: CEM
Phone: 5658
Faculty Contact: S Khataniar

See http://www.uaf.edu/uaafgov/faculty/cd for a complete description of the rules governing curriculum & course changes.

PROGRAM IDENTIFICATION:

DEGREE PROGRAM

Degree Level: (i.e., Certificate, A.A., A.A.S., B.A., B.S., M.A., M.S., Ph.D.)

PETE

MS

A. CHANGE IN DEGREE REQUIREMENTS: (Brief statement of program/degree changes and objectives)

PETE F621 Applied Reservoir Characterization was approved as a bona fide petroleum engineering course at graduate level several years ago. The purpose of this form is to formally include PETE 621 as one of the graduate courses in the list of available courses for MS degree in PETE.

B. CURRENT REQUIREMENTS AS IT APPEARS IN THE CATALOG:

Petroleum Engineering

College of Engineering and Mines
Department of Petroleum Engineering
907-474-7734
www.uaf.edu/cem/pete/

B.S., M.S. DEGREE

Minimum Requirements for Degree: 30 – 36 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 modern and challenging degree programs.

The M.S. program is intended to provide students with an advanced treatment of petroleum engineering concepts. Students may choose either a thesis or non-thesis option. Research and teaching assistantships are available.

A doctoral degree program is offered with concentration in petroleum engineering for qualified
students (see Engineering). Contact the graduate program coordinator or the petroleum engineering department for more information.

**Graduate Program — M.S. Degree**

1. Complete the following admission requirement:
   a. Complete a B.S. degree in engineering or the natural sciences.

2. Complete the general university requirements.

3. Complete the master's degree requirements.

4. Complete the thesis or non-thesis requirements:
   **Thesis**
   a. Complete four of the following:
      PETE F607—Advanced Production Engineering—3 credits
      PETE F610—Advanced Reservoir Engineering—3 credits
      PETE F630—Water Flooding—3 credits
      PETE F656—Advanced Petroleum Economic Analysis—3 credits
      PETE F661—Applied Well Testing—3 credits
      PETE F662—Enhanced Oil Recovery—3 credits
      PETE F663—Applied Reservoir Simulation—3 credits
      PETE F665—Advanced Phase Behavior—3 credits
      PETE F666—Drilling Optimization—3 credits
      PETE F670—Fluid Flow Through Porous Media—3 credits
      PETE F680—Horizontal Well Technology—3 credits
      PETE F683—Natural Gas Processing and Engineering—3 credits
      PETE F684—Computational Methods in Petroleum Engineering—3 credits
      PETE F685—Non-Newtonian Fluid Mechanics—3 credits
      PETE F689—Multiphase Fluid Flow in Pipes—3 credits
   b. Complete the following:
      PETE F699—Thesis—6 credits
      Elective courses*—12 credits
   c. Minimum credits required—30 credits

   **Non-Thesis**
   d. Complete four courses from those in the thesis option.—12 credits
   e. Complete the following:
      PETE F698—Engineering Project—6 credits
      Electives*—18 credits
   f. Minimum credits required—36 credits

* Electives are chosen with approval of graduate advisory committee.

C. PROPOSED REQUIREMENTS AS IT WILL APPEAR IN THE CATALOG WITH THESE CHANGES:
(Underline new wording strike-through-old- wording and use complete catalog format )

**Petroleum Engineering**

College of Engineering and Mines
B.S., M.S. DEGREE

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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.

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      PETE F663—Applied Reservoir Simulation—3 credits
      PETE F665—Advanced Phase Behavior—3 credits
      PETE F666—Drilling Optimization—3 credits
      PETE F670—Fluid Flow Through Porous Media—3 credits
      PETE F680—Horizontal Well Technology—3 credits
      PETE F683—Natural Gas Processing and Engineering—3 credits
      PETE F684—Computational Methods in Petroleum Engineering—3 credits
      PETE F685—Non-Newtonian Fluid Mechanics—3 credits
      PETE F689—Multiphase Fluid Flow in Pipes—3 credits
      PETE F621—Applied Reservoir Characterization—3 credits
   b. Complete the following:
      PETE F699—Thesis—6 credits
Elective courses*—12 credits

c. Minimum credits required—30 credits

Non-Thesis
d. Complete four courses from those in the thesis option.—12 credits
e. Complete the following:
   PETE F698—Engineering Project—6 credits
   Electives*—18 credits
f. Minimum credits required—36 credits

* Electives are chosen with approval of graduate advisory committee.

D. ESTIMATED IMPACT

WHAT IMPACT, IF ANY, WILL THIS HAVE ON BUDGET, FACILITIES/SPACE, FACULTY, ETC.

None

E. IMPACTS ON PROGRAMS/DEPTS:

What programs/departments will be affected by this proposed action?
Include information on the Programs/Departments contacted (e.g., email, memo)

None

F. IF MAJOR CHANGE—ASSESSMENT OF THE PROGRAM:

Description of the student learning outcomes assessment process.)

Not a major change

JUSTIFICATION FOR ACTION REQUESTED

The purpose of the department and campus-wide curriculum committees is to scrutinize program/degree change applications to make sure that the quality of UAF education is not lowered as a result of the proposed change. Please address this in your response. This section needs to be self-explanatory. If you drop a course, is it because the material is covered elsewhere? Use as much space as needed to fully justify the proposed change and explain what has been done to ensure that the quality of the program is not compromised as a result.

PETE F621 Applied Reservoir Characterization was approved as a bona fide petroleum engineering course at graduate level several years ago. The purpose of this form is to formally include PETE 621 as one of the graduate courses in the list of available courses for MS degree in PETE
## APPROVALS:

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<td>Mrs. Almanza</td>
<td>2/18/10</td>
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<td>Chair, Program/Department of:</td>
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<td>Signature, Chair, College/School Curriculum Council for:</td>
<td>CEM</td>
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<td>Mrs. Almanza</td>
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<td>Dean, College/School of:</td>
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**ALL SIGNATURES MUST BE OBTAINED PRIOR TO SUBMISSION TO THE GOVERNANCE OFFICE**

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