

FORMAT 5

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(email electronic copy to fyssenat@uaf.edu)

PROGRAM/DEGREE REQUIREMENT CHANGE (MAJOR/MINOR)
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SUBMITTED BY:

Department	PETE	College/School	CEM
Prepared by	Jennifer Hedrick	Phone	7734
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See <http://www.uaf.edu/uafgov/faculty/cd> for a complete description of the rules governing curriculum & course changes.

PROGRAM IDENTIFICATION:

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

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

Combining 103, 104, 205 and 206 into a single 3-credit class (PETE 101) will effectively reduce the degree requirements by one credit, from 134 to 133 required minimum credits.
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B. CURRENT REQUIREMENTS AS IT APPEARS IN THE CATALOG:

Major -- B.S. Degree

1. Complete the [general university requirements](#). (As part of the core curriculum requirements, complete: MATH F200X, CHEM F105X and F106X, and LS F101X.)
2. Complete the [B.S. degree requirements](#). (As part of the B.S. degree requirements, complete: MATH F201X, PHYS F211X and F212X.)
3. Complete the following program (major) requirements:*
 - ES F201--Computer Techniques--3 credits
 - ES F208--Mechanics--4 credits
 - ES F331--Mechanics of Materials--3 credits
 - ES F341--Fluid Mechanics--4 credits
 - ES F346--Basic Thermodynamics--3 credits
 - GE F261--General Geology for Engineers (3)
 - or GEOS F101X--The Dynamic Earth (4)--3 - 4 credits
 - GEOS F370--Sedimentary and Structural Geology for Petroleum Engineers--4 credits
 - PETE F103--Survey of Energy Industries--1 credit
 - PETE F104--Fundamentals of Petroleum--1 credit
 - PETE F205--Fundamentals of Drilling Practices--1 credit
 - PETE F206--Introduction to Petroleum Production--1 credit
 - PETE F301--Reservoir Rock and Fluid Properties--4 credits
 - PETE F302--Well Logging--3 credits

PETE F303W--Reservoir Rock and Fluid Properties Laboratory--1 credit
 PETE F407--Petroleum Production Engineering--3 credits
 PETE F411W--Drilling Fluids Laboratory--1 credit
 PETE F421--Reservoir Characterization--3 credits
 PETE F426--Drilling Engineering--3 credits
 PETE F431--Natural Gas Engineering--2 credits
 PETE F456--Petroleum Evaluation and Economic Decisions--3 credits
 PETE F466--Petroleum Recovery Methods--3 credits
 PETE F476--Petroleum Reservoir Engineering--3 credits
 PETE F478--Well Test Analysis--2 credits
 PETE F481W--Well Completions and Stimulation Design--3 credits
 PETE F487A--Petroleum Project Design**--1 credit
 PETE F487BW,O--Petroleum Project Design--1 credit
 PETE F489--Reservoir Simulation--2 credits
 Engineering elective***--3 credits
 Technical elective****--3 credits

4. Complete the following program (major) requirements:
 MATH F202X--Calculus III--4 credits
 MATH F302--Differential Equations--3 credits
 MATH F310--Numerical Analysis (3)
 or ES F301--Engineering Analysis--3 credits
5. Complete the Fundamentals of Engineering Exam (as approved by the Board of Architects, Engineers and Land Surveyors).
6. Minimum credits required--134 credits

***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)***

Major -- B.S. Degree

1. Complete the general university requirements. (As part of the core curriculum requirements, complete: MATH F200X, CHEM F105X and F106X, and LS F101X.)
2. Complete the B.S. degree requirements. (As part of the B.S. degree requirements, complete: MATH F201X, PHYS F211X and F212X.)
3. Complete the following program (major) requirements:*
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 ES F208--Mechanics--4 credits
 ES F331--Mechanics of Materials--3 credits
 ES F341--Fluid Mechanics--4 credits
 ES F346--Basic Thermodynamics--3 credits
 GE F261--General Geology for Engineers (3)
 or GEOS F101X--The Dynamic Earth (4)--3 - 4 credits
 GEOS F370--Sedimentary and Structural Geology for Petroleum Engineers--4 credits
PETE 101--Fundamentals of Petroleum, Drilling and Production--3
~~PETE F103--Survey of Energy Industries--1 credit~~
~~PETE F104--Fundamentals of Petroleum--1 credit~~
~~PETE F205--Fundamentals of Drilling Practices--1 credit~~

~~PETE F206--Introduction to Petroleum Production--1 credit~~
 PETE F301--Reservoir Rock and Fluid Properties--4 credits
 PETE F302--Well Logging--3 credits
 PETE F303W--Reservoir Rock and Fluid Properties Laboratory--1 credit
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D. ESTIMATED IMPACT

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

Combining the classes will allow faculty to cover a substantial amount of material during the student's freshman year, keeping the student engaged and giving them the proper foundation for their studies rather than spreading these fundamental knowledge and skills out through their years here. It is believed this change will better serve the student's education.

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)**

Petroleum Engineering will be the affected department and a Bachelor's of Science in Petroleum Engineering will be the affected program.

F. IF MAJOR CHANGE - ASSESSMENT OF THE PROGRAM:

Description of the student learning outcomes assessment process.)

It is believed that this change will benefit the students learning outcome as it will provide them with essential knowledge and skills during their freshman year, building the base for what is to come in their studies. It is also believed that combining these topics will make for a more engaging learning environment.

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.

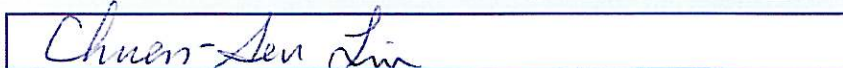
Petroleum engineering department has traditionally offered PETE 103, PETE 104, PETE 205 and PETE 206, four, 1 credit classes in first four semesters of freshman petroleum engineering student degree program. The program enrollment has increased steadily over the past 6 years, with current enrollment almost quadrupled to ~125 students (from 29 students in 2006). Significant part of the enrollment increase is from non-traditional out of state transfer students and students coming from China with UAF 2+2 articulation agreement with China University of Petroleum- Beijing. These changes have caused significant problems in terms of course scheduling as well as students having to wait for a year to take some of these classes.

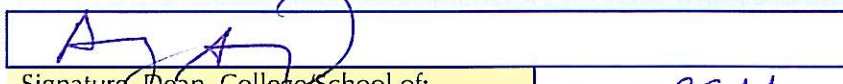
To overcome these problems and allow faculty to cover substantial course material and engage with students for a good portion of their freshman year, the department has decided to combine these four courses into one 3 credit class, PETE 101- Fundamentals of Petroleum, Drilling and Production.

This new course, PETE 101 will be offered each fall and spring, which will avoid students having to wait for a year to take a class or stay back in the summer to take a class while jeopardizing their summer internship with companies, so vital for their long-term career opportunities.


APPROVALS:

	Date	11/11/2012
Signature, Chair, Program/Department of: Petroleum Engineering		

	Date	11/06/2012
Signature, Chair, College/School Curriculum Council for: College of Engineering and Mines		

	Date	11/8/12
Signature, Dean, College/School of: CEM		

ALL SIGNATURES MUST BE OBTAINED PRIOR TO SUBMISSION TO THE GOVERNANCE OFFICE

	Date	
Signature, Chair, UAF Faculty Senate Curriculum Review Committee		