

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	Civil and Environmental Engineering	College/School	Engineering and Mines
Prepared by	Keith Whitaker	Phone	474-7497
Email Contact	kwhitaker@alaksa.edu	Faculty Contact	David Barnes

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

PROGRAM IDENTIFICATION:

DEGREE PROGRAM	Civil 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)

Change in the required drafting course to reflect changes in student computing abilities and the need to require a more engineering appropriate coursework. Current course provides only basic skills in usage of a computer and using it as a drafting tool. Proposed coursework will introduce students to effective use of the tool for use in engineering applications.

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 CHEM F106X*.)
2. Complete the B.S. degree requirements. (As part of the B.S. degree requirements, complete: MATH F201X*; PHYS F211X* and PHYS F212X*.)
3. Complete the following program (major) requirements:
 - CE F112--Elementary Surveying--3 credits
 - CE F302--Introduction to Transportation Engineering--3 credits
 - CE F326W--Introduction to Geotechnical Engineering--4 credits
 - CE F331--Structural Analysis--3 credits
 - CE F334--Properties of Materials--3 credits
 - CE F344--Water Resources Engineering--3 credits
 - CE F400--FE Exam--0 credit
 - CE F432--Steel Design--3 credits
 - CE F438W,O--Design of Engineered Systems--3 credits
 - CE F441--Environmental Engineering--4 credits
 - CE F490--Civil Engineering Seminar--.5 credit
 - CE F491--Civil Engineering Seminar--.5 credit
 - DRT F170--Beginning AutoCAD--3 credits
 - ES F101--Introduction to Engineering--3 credits
 - ES F201--Computer Techniques--3 credits
 - ES F209--Statics--3 credits
 - ES F210--Dynamics--3 credits

ES F301--Engineering Analysis--3 credits
ES F331--Mechanics of Materials--3 credits
ES F341--Fluid Mechanics--4 credits
ESM F422--Engineering Decisions--3 credits
ESM F450W--Economic Analysis and Operations--3 credits
GE F261--General Geology for Engineers--3 credits
MATH F202X--Calculus III--4 credits
MATH F302--Differential Equations--3 credits
Technical electives**--12 credits

4. Minimum credits required--134 credits

* Students must earn a C grade (2.0) or better in each course.

** Technical electives must include 3 credits in the field of environmental engineering or transportation, 6 credits of CE, ENVE, ESM courses or approved technical courses, and 3 credits of either ES F307 or ES F346. Students must earn a C grade (2.0) or better in each technical elective course. Up to two graduate-level courses may be used towards graduation. Graduate-level courses must be approved by student's advisor and the student must be within two semesters of graduation and have at least a 3.0 GPA to take graduate-level courses.

Note: The ability to use computers for normal class work is expected in all engineering classes above the F100-level.

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 CHEM F106X*.)
2. Complete the B.S. degree requirements. (As part of the B.S. degree requirements, complete: MATH F201X*; PHYS F211X* and PHYS F212X*.)
3. Complete the following program (major) requirements: *
 - CE F112--Elementary Surveying--3 credits
 - CE F302--Introduction to Transportation Engineering--3 credits
 - CE F326W--Introduction to Geotechnical Engineering--4 credits
 - CE F331--Structural Analysis--3 credits
 - CE F334--Properties of Materials--3 credits
 - CE F344--Water Resources Engineering--3 credits
 - CE F400--FE Exam--0 credit
 - CE F432--Steel Design--3 credits
 - CE F438W,O--Design of Engineered Systems--3 credits
 - CE F441--Environmental Engineering--4 credits
 - CE F490--Civil Engineering Seminar--.5 credit
 - CE F491--Civil Engineering Seminar--.5 credit
 - ~~DRT F170--Beginning AutoCAD--3 credits~~
 - DRT F210--Intermediate CAD--3 credits
 - ES F101--Introduction to Engineering--3 credits
 - ES F201--Computer Techniques--3 credits
 - ES F209--Statics--3 credits

ES F210--Dynamics--3 credits
ES F301--Engineering Analysis--3 credits
ES F331--Mechanics of Materials--3 credits
ES F341--Fluid Mechanics--4 credits
ESM F422--Engineering Decisions--3 credits
ESM F450W--Economic Analysis and Operations--3 credits
GE F261--General Geology for Engineers--3 credits
MATH F202X--Calculus III--4 credits
MATH F302--Differential Equations--3 credits
Technical electives**--12 credits

4. Minimum credits required--134 credits

* Students must earn a C grade (2.0) or better in each course.

** Technical electives must include 3 credits in the field of environmental engineering or transportation, 6 credits of CE, ENVE, ESM courses or approved technical courses, and 3 credits of either ES F307 or ES F346. Students must earn a C grade (2.0) or better in each technical elective course. Up to two graduate-level courses may be used towards graduation. Graduate-level courses must be approved by student's advisor and the student must be within two semesters of graduation and have at least a 3.0 GPA to take graduate-level courses.

Note: The ability to use computers for normal class work is expected in all engineering classes above the F100-level.

D. ESTIMATED IMPACT

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

No impact

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)*

This will positively impact the Drafting Technology Department at CTC. After several conversations and meetings between Thane Magelky at CTC it was determined that the more advanced class would provide the challenge the students have expressed is lacking in the present drafting course. Thane is in support of this proposed change. tmagelky@alaska.edu

F. IF MAJOR CHANGE - ASSESSMENT OF THE PROGRAM:

Description of the student learning outcomes assessment process.)

JUSTIFICATION FOR ACTION REQUESTED

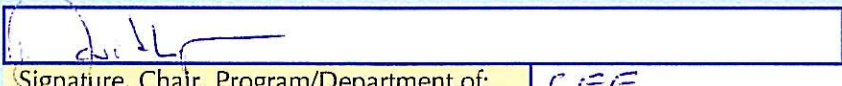
The purpose of the department and campus-wide curriculum committees is to scrutinize program/degree change applications to make sure that the quality of UAF education is not lowered as a result of the proposed change. Please address this in your response. This section needs to be self-explanatory. If 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.

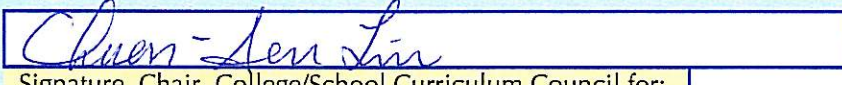
The purpose of the change is to elevate the quality of education. Drafting abilities are a significant form of engineering communication. The communication skills of graduating engineers has been an area of concern for a number of years. While not classified as a weakness, it was an issue raised in the most recent onsite ABET accreditation report.

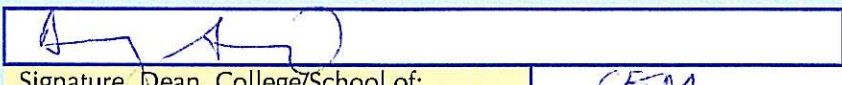
Discussions with current and former students and with the course instructor have revealed that the engineering students are not challenged enough in the basic course and the course does not cover the materials they need to succeed in upper level courses or upon graduation.

In an effort to address this concern and to better prepare students for upper level engineering design courses, CEE has been discussing options with CTC for some time. Rather than a modification to the content of the current required course it was determined that the course change would better address the need of the students.

APPROVALS:

	Date	5/30/12
Signature, Chair, Program/Department of: CEE		

	Date	09/10/2012
Signature, Chair, College/School Curriculum Council for:		

	Date	9/11/12
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		