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PROGRAM/DEGREE REQUIREMENT CHANGE (MAJOR/MINOR)

SUBMITTED BY:

Department	Mechanical Engineering	College/School	College of Engineering & Mines
Prepared by	Frances Bedel	Phone	x7136
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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	Mechanical Engineering
Degree Level: (i.e., Certificate, A.A., A.A.S., B.A., B.S., M.A., M.S., Ph.D.)	B.S./M.S.

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

Delete the requirement of ME F487W,O – Design Project (3 credits)
 And:
 Make ME F488W,O – Design Project (1 credit, fall) AND ME F489W,O – Design Project (2 credits, Spring) the new replacements

(cont. on next page)

B. CURRENT REQUIREMENTS AS IT APPEARS IN THE CATALOG:

Major -- B.S./M.S. Degree

1. Complete the following admission requirements:
 1. ME major (junior preferred) or senior standing.
 2. GPA 3.25 or above (based on minimum of 24 credits in ME major requirements). Students must maintain a cumulative GPA of 3.0 to remain in the program.
 3. Submit three letters of reference.
 4. Submit GRE (general) scores.
 5. Submit a study goal statement.
 6. Submit a UAF graduate application for admission.
2. Complete the general university requirements.
3. Complete the B.S. degree requirements. (As part of the B.S. degree requirements, complete: MATH F201X, PHYS F211X and PHYS F212X.)
4. Complete the master's degree requirements (page 205).
5. Complete the following B.S. program (major) requirements:
 - 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 F307--Elements of Electrical Engineering--3 credits
 - ES F331--Mechanics of Materials--3 credits
 - ES F341--Fluid Mechanics--4 credits
 - ES F346--Basic Thermodynamics--3 credits
 - ESM F450W--Economic Analysis and Operations--3 credits
 - MATH F202X--Calculus--4 credits
 - MATH F302--Differential Equations--3 credits
 - ME F302--Dynamics of Machinery--3 credits
 - ME F308--Measurement and Instrumentation--3 credits
 - ME F313--Mechanical Engineering Thermodynamics--3 credits
 - ME F321--Industrial Processes--3 credits
 - ME F334--Elements of Materials Science/Engineering--3 credits
 - ME F403--Machine Design--3 credits
 - ME F408--Mechanical Vibrations--3 credits
 - ME F415W--Thermal Systems Laboratory--3 credits
 - ME F441--Heat and Mass Transfer--3 credits
 - ME F487W/O-- Design Project--3 credits
6. Complete the following M.S. program (major) requirements:
 - ME F608--Advanced Dynamics --3 credits
 - ME F631--Advanced Mechanics of Materials--3 credits
 - ME F634--Advanced Materials Engineering--3 credits
 - ME F641--Advanced Fluid Mechanics--3 credits
 - ME F642--Advanced Heat Transfer--3 credits
7. Complete the thesis or non-thesis requirements:
 - Thesis
 - ME F699--Thesis --6 credits
 - Electives--9 credits
(Electives approved by student's advisory committee with at least 3 credits at the graduate level)
 - Non-Thesis
 - ME F698--Project--3 credits
 - Electives--12 credits
(Electives approved by student's advisory committee with at least 6 credits at the graduate level)
8. Minimum credits required for both degrees--151 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./M.S. Degree

1. Complete the following admission requirements:
 1. ME major (junior preferred) or senior standing.
 2. GPA 3.25 or above (based on minimum of 24 credits in ME major requirements). Students must maintain a cumulative GPA of 3.0 to remain in the program.
 3. Submit three letters of reference.
 4. Submit GRE (general) scores.
 5. Submit a study goal statement.
 6. Submit a UAF graduate application for admission.
2. Complete the general university requirements.
3. Complete the B.S. degree requirements. (As part of the B.S. degree requirements, complete: MATH F201X, PHYS F211X and PHYS F212X.)
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 - ES F307--Elements of Electrical Engineering--3 credits
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 - ES F341--Fluid Mechanics--4 credits
 - ES F346--Basic Thermodynamics--3 credits
 - ESM F450W--Economic Analysis and Operations--3 credits
 - MATH F202X--Calculus--4 credits
 - MATH F302--Differential Equations--3 credits
 - ME F302--Dynamics of Machinery--3 credits
 - ME F308--Measurement and Instrumentation--3 credits
 - ME F313--Mechanical Engineering Thermodynamics--3 credits
 - ME F321--Industrial Processes--3 credits
 - ME F334--Elements of Materials Science/Engineering--3 credits
 - ME F403--Machine Design--3 credits
 - ME F408--Mechanical Vibrations--3 credits
 - ME F415W--Thermal Systems Laboratory--3 credits
 - ME F441--Heat and Mass Transfer--3 credits
 - ME F487W/O-- Design Project--3 credits
 - ME F488W/O-- Design Project--1 credits
 - ME F489W/O-- Design Project--2 credits
6. Complete the following M.S. program (major) requirements:
 - ME F608--Advanced Dynamics --3 credits
 - ME F631--Advanced Mechanics of Materials--3 credits
 - ME F634--Advanced Materials Engineering--3 credits
 - ME F641--Advanced Fluid Mechanics--3 credits
 - ME F642--Advanced Heat Transfer--3 credits
7. Complete the thesis or non-thesis requirements:
 - Thesis
 - ME F699--Thesis --6 credits
 - Electives--9 credits
(Electives approved by student's advisory committee with at least 3 credits at the graduate level)
 - Non-Thesis
 - ME F698--Project--3 credits
 - Electives--12 credits
(Electives approved by student's advisory committee with at least 6 credits at the graduate level)
8. Minimum credits required for both degrees--151 credits

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)

The only positive impact is to students who will have more time to practice and complete their senior design project.

F. IF MAJOR CHANGE - ASSESSMENT OF THE PROGRAM:

Description of the student learning outcomes assessment process.)

JUSTIFICATION FOR ACTION REQUESTED

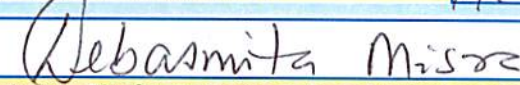
The purpose of the department and campus-wide curriculum committees is to scrutinize program/degree change applications to make sure that the quality of UAF education is not lowered as a result of the proposed change. Please address this in your response. This section needs to be self-explanatory. If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

- For the capstone design course (senior design), the past experience shows that it needs longer time than one semester for many students to complete a comprehensive design process, which includes project definition, specification, concept design, development, fabrication and test.
- ME department once had a meeting in Nov. 2010 dedicated to discussing this issue, and a consensus was reached: this course needs to be dropped and two new courses (senior design I and II) should be formed to replace it, so as to allow students to have two semesters to conduct a comprehensive senior design.
- This proposal is for the dropping of current senior design course, so as to initiate and implement two new proposed courses.

APPROVALS:

 Date 2/18/2011

Signature, Chair, Program/Department of: Mechanical Engineering

 Date 2/18/11

Signature, Chair, College/School Curriculum Council for: CEM

 Date 2/22/11

Signature, Dean, College/School of: CEM

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

Signature, Chair, UAF Faculty Senate Curriculum Review Committee Date

Signature, Chair, UAF Faculty Senate Curriculum Review Committee