UNIVERSITY FACULTY SENATE FORMS

Academic Program Approval

This form is a routing document for the approval of new and revised academic programs. Proposing department should complete this form. For more information, call the Faculty Senate Office at 831-2921.

Submitted by: Michael Keefe phone number 302-831-8009
Department: Mechanical Engineering email address keefe@udel.edu
Date: November 3, 2011

Action: modify bachelor of Mechanical Engineering Degree program
(Example: add major/minor/concentration, delete major/minor/concentration, revise
major/minor/concentration, academic unit name change, request for permanent status, policy change, etc.)

Effective term 12F
(use format 04F, 05W)

Current degree BME
(Example: BA, BACH, BACJ, HBA, EDD, MA, MBA, etc.)

Proposed change leads to the degree of: BME
(Example: BA, BACH, BACJ, HBA, EDD, MA, MBA, etc.)

Proposed name: (not applicable - same name)
Proposed new name for revised or new major / minor / concentration / academic unit
(if applicable)

Revising or Deleting:

Undergraduate major / Concentration: Mechanical Engineering
(Example: Applied Music – Instrumental degree BMAS)

Undergraduate minor:
(Example: African Studies, Business Administration, English, Leadership, etc.)

Graduate Program Policy statement change:
(Must attach your Graduate Program Policy Statement)

Graduate Program of Study:
(Example: Animal Science: MS Animal Science: PHD Economics: MA Economics: PHD)

Graduate minor / concentration:

Note: all graduate studies proposals must include an electronic copy of the Graduate Program Policy Document, highlighting the changes made to the original policy document.

List new courses required for the new or revised curriculum. How do they support the overall program objectives of the major/minor/concentrations)?
New 1-credit Lab courses MEEG216 - Mechanics of Solids lab, MEEG312 - Vibration and Controls lab, MEEG333 - Fluids lab. Each lab course will have it’s lecture course as a corequisite. Changing current 4-credit lecture+lab courses to separate 3-credit lecture + 1-credit lab courses.

Explain, when appropriate, how this new/revised curriculum supports the 10 goals of undergraduate education: http://www.ugs.udel.edu/gened/

Not applicable

Identify other units affected by the proposed changes:
(Attach permission from the affected units. If no other unit is affected, enter “None”)

None

Describe the rationale for the proposed program change(s):
(Explain your reasons for creating, revising, or deleting the curriculum or program.)

We are proposing to change our three 4-credit MEEG courses that are lecture+lab to 3-credit lecture courses plus a 1-credit lab (with the lecture as corequisite). This will make scheduling much easier for the department as well as making transfer credits from other programs/institutions more straightforward for equivalencies.

Program Requirements:
(Show the new or revised curriculum as it should appear in the Course Catalog. If this is a revision, be sure to indicate the changes being made to the current curriculum and include a side-by-side comparison of the credit distribution before and after the proposed change.)

Catalog information: strike out shows changes - new text added in GREEN:

DEGREE: BACHELOR OF MECHANICAL ENGINEERING
MAJOR: MECHANICAL ENGINEERING

CURRICULUM
Parenthesized figures indicate year and semester in which the course should be taken
(1 = freshman, 2 = sophomore, 3 = junior, 4 = senior) and semester (F = fall, S = spring)

CREDITS

UNIVERSITY REQUIREMENTS
ENGL 110 Critical Reading and Writing (minimum grade C-) 3 (1F)
First Year Experience (FYE) 0-4
Discovery Learning Experience (DLE) 3
Breadth Requirements 12
Multi-cultural Course(s) 3

MAJOR REQUIREMENTS

College of Engineering Breadth Requirements 21
The College of Engineering requires 21 total Breadth Requirement credits (essentially 9 credits in addition to the University Breadth Requirement.)

- If chosen carefully, up to 3 credits from each of the University Breadth Requirement categories may be used to simultaneously satisfy the College of Engineering Breadth Requirements for this major.
- Of the 21 credits, 6 credits must be at the Upper Level (usually 300-level or higher) as designated on the College of Engineering Breadth Requirement list.
• Of the 21 credits, 3 credits may be used to satisfy the University Multicultural Requirement (recommended for timely progress toward degree completion.)

• All Breadth Requirement coursework must be passed with a minimum grade of C-.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 103</td>
<td>General Chemistry</td>
<td>4 (1F)</td>
</tr>
<tr>
<td>CISC 106</td>
<td>General Computer Science for Engineers</td>
<td>3 (1F)</td>
</tr>
<tr>
<td>EGGG 101</td>
<td>Introduction to Engineering (FYE)</td>
<td>2 (1F)</td>
</tr>
<tr>
<td>MATH 241</td>
<td>Analytic Geometry and Calculus A</td>
<td>4 (1F)</td>
</tr>
<tr>
<td>MATH 242</td>
<td>Analytic Geometry and Calculus B</td>
<td>4 (1S)</td>
</tr>
<tr>
<td>MATH 243</td>
<td>Analytic Geometry and Calculus C</td>
<td>4 (2F)</td>
</tr>
<tr>
<td>MATH 351</td>
<td>Engineering Mathematics I</td>
<td>3 (2F)</td>
</tr>
<tr>
<td>MATH 352</td>
<td>Engineering Mathematics II</td>
<td>3 (2S)</td>
</tr>
<tr>
<td>MATH 353</td>
<td>Engineering Mathematics III</td>
<td>3 (2S)</td>
</tr>
<tr>
<td>MEEG 112</td>
<td>Statics (minimum grade of C- required to progress)</td>
<td>3 (1S)</td>
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<tr>
<td>MEEG 202</td>
<td>Computer-Aided Engineering Design</td>
<td>3 (2S)</td>
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<tr>
<td>MEEG 211</td>
<td>Dynamics</td>
<td>3 (2F)</td>
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<tr>
<td>MEEG 215</td>
<td>Mechanics of Solids</td>
<td>4-3 (2F)</td>
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<tr>
<td>MEEG 216</td>
<td>Mechanics of Solids Lab</td>
<td>1 (2F)</td>
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<tr>
<td>MEEG 301</td>
<td>Machine Design - Kinematics and Kinetics</td>
<td>3 (3F)</td>
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<tr>
<td>MEEG 304</td>
<td>Machine Design - Elements</td>
<td>3 (3S)</td>
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<tr>
<td>MEEG 311</td>
<td>Vibration and Control</td>
<td>4-3 (3F)</td>
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<tr>
<td>MEEG 312</td>
<td>Vibration and Control Lab</td>
<td>1 (3F)</td>
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<tr>
<td>MEEG 321</td>
<td>Materials Engineering</td>
<td>3 (3F)</td>
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<tr>
<td>MEEG 331</td>
<td>Fluid Mechanics I</td>
<td>4-3 (3F)</td>
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<tr>
<td>MEEG 332</td>
<td>Fluid Mechanics II</td>
<td>3 (3S)</td>
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<tr>
<td>MEEG 333</td>
<td>Fluid Mechanics Lab</td>
<td>1 (3F)</td>
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<tr>
<td>MEEG 341</td>
<td>Thermodynamics</td>
<td>3 (3F)</td>
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<tr>
<td>MEEG 342</td>
<td>Heat Transfer</td>
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<tr>
<td>MEEG 346</td>
<td>Thermal Lab</td>
<td>1 (3S)</td>
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<td>MEEG 401</td>
<td>Senior Design (DLE)</td>
<td>6 (4F)</td>
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<td>MSEG 302</td>
<td>Materials Science for Engineers</td>
<td>3 (2S)</td>
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<td>PHYS 207</td>
<td>Fundamentals of Physics I</td>
<td>4 (1S)</td>
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<tr>
<td>PHYS 245</td>
<td>Introduction to Electricity and Electronics</td>
<td>4 (2S)</td>
</tr>
</tbody>
</table>

TECHNICAL ELECTIVES

Courses in engineering, science or mathematics selected by the student with the approval of his/her advisor.

CREDITS TO TOTAL A MINIMUM OF 123

ROUTING AND AUTHORIZATION:  (Please do not remove supporting documentation )

Department Chairperson  
Date 11/7/11

Dean of College  
Date 11/14/11

Chairperson, College Curriculum Committee  
Date 11/22/11

Chairperson, Senate Com on UG or GR Studies  
Date

Chairperson, Senate Coordinating Com  
Date