

08-53



Minnesota State University, Mankato MOLE and CLEAR editions only compatible with Acrobat 5.0 and 5.1 Curriculum Proposal

Please type or select the requested information. Print completed forms, add appropriate paper attachments, and route through MSU's curricular process for recommendations and decisions.

College: <u>Science, Engineering and Technology</u>		(Check all that apply):		Proposal # <u>87</u>
Department: <u>Mechanical Engineering</u>		<input checked="" type="checkbox"/> Undergraduate		Effective Date of Change:
Program: <u>BS in Mechanical Engineering</u>		<input type="checkbox"/> Graduate		Academic Year <u>07-08</u>
Type of Change: <u>PROGRAM PROPOSALS</u>		CIP # _____		(For Office Use Only)
Proposed: <u>Change in Requirements-Course(s) Added</u>				
Title Current:		Course Designator	Number of	
Title Proposed:		and Number	Credits	
24-Char. Abbrev:				(if applicable)

Include a course or program description for the Bulletin (30-40 words maximum for courses, 100 for programs):

-- No change --

Rationale or Justification for change:

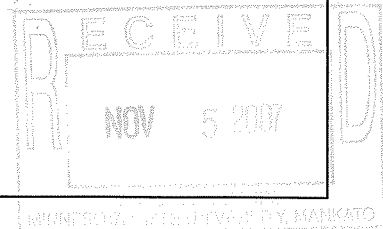
Changes needed to reflect and accommodate changes in Physics I and Physics II.

For General Education or Cultural Diversity Courses Only

General Education Course:		Cultural Diversity Course: (Please check one.)
GE Category #	GE Category Name (Maximum of 3 Categories)	
<u>N/A</u>		<input type="checkbox"/> Core (At least 75% devoted to topics of race, gender, sexual orientation, age, class, and disabilities as they occur in United States Society.) <input type="checkbox"/> Related (At least 25% devoted to the above topics or to a global perspective on topics related to African American, Asian, Hispanic, and Native American inhabitants of the United States.)
<u>N/A</u>		
<u>N/A</u>		
<p>? For Writing Intensive Courses, attach a description of the kind and quantity of writing.</p> <p>? For Upper Division Courses, include a description of the respects in which it is broad and general rather than narrow and specific, and so suitable as GE.</p> <p>Attach paper copies of the following:</p> <ol style="list-style-type: none"> Syllabus or course outline. Course's student learning outcomes associated with each GE competency or CD designation. List of strategies to be used to assess students' achievement of each GE competency or CD designation. 		

For New Courses

(Check all that apply):	Instructional Type: <u>Lecture</u>	Course will be offered:
<input type="checkbox"/> Course is an elective.	Grading Format: <input type="checkbox"/> Grade <input type="checkbox"/> P/N	<input type="checkbox"/> Fall Semester
<input type="checkbox"/> Course is required for program		<input type="checkbox"/> Spring Semester
<input type="checkbox"/> Pre- or Co-requisites:		<input type="checkbox"/> Summer Session
<input type="checkbox"/> Other courses are being changed or eliminated. (Explain.) _____		
<input type="checkbox"/> Course content or title is similar to courses in other departments. (Attach copy of letter of agreement with other program(s) contacted. Indicate the nature of the discussions and/or resolution of differences or potential conflicts.)		
Attach paper copies of the following:		
<ol style="list-style-type: none"> Syllabus or course outline. Course's student learning outcomes. A list of resources required to offer and support this course. A description of how teaching this course will affect department staffing. If 400/500 level course, an explanation of added expectations of graduate students. 		





**Minnesota State University, Mankato
Curriculum Proposal**

Signature Page

Department

Recommended (Category/ies _____)
 Not Recommended (Category/ies _____)

Charles W. [Signature] 12/20/07
 Department Chair Date

Comments:

College Curriculum Committee

Recommended (Category/ies _____)
 Not Recommended (Category/ies _____)

[Signature] 10/30/07
 Committee Chair Date

Comments:

College Dean

Recommended (Category/ies _____)
 Not Recommended (Category/ies _____)

[Signature] 10/31/07
 Dean Date

Comments:

General Education Subcommittee

Recommended (Category/ies _____)
 Not Recommended (Category/ies _____)

 General Education Subcommittee Chair Date

Comments:

Undergraduate Curriculum and Academic Policy Committee

Recommended (Category/ies _____)
 Not Recommended (Category/ies _____)

[Signature] 12/20/07
 UCAP Faculty Chair Date

Comments:

Faculty Association Graduate Committee

Recommended
 Not Recommended

 Faculty Association Graduate Chair Date

Comments:

Graduate Dean

Recommended
 Not Recommended

 Graduate Dean Date

Comments:

Academic Affairs Council

Recommended (Category/ies _____)
 Not Recommended (Category/ies _____)

Brenda January 12/20/07
 Assistant Vice President Date

Comments:

Senior Vice President and Vice President for Academic Affairs

Approved (Category/ies _____)
 Not Approved (Category/ies _____)

[Signature] 12/20/07
 Sr. Vice President / Vice Pres. Academic Affairs Date

Comments:

ME PROGRAM CHANGE

Rationale: The required Physics courses are changing from two five credit courses to five courses: a four credit, a three plus one and a three plus one. The three plus one is caused by separating the lab from the course. Requiring only the four credit and one of the three plus one results in a decrease of two credits of Physics. Chemistry has a new course Chemistry for Engineers, which is three credits to be used in place of General Chemistry I, five credits. The decrease of two credits in Physics and two credits in Chemistry results in four available credits. These credits will be used for a science elective. The proposal is to adopt new Physics and Chemistry courses and add the science elective. Thus maintaining the number of required science credits.

PROGRAM CHANGE

- a. Student learning outcomes for the program: ABET
 1. Ability to apply knowledge from mathematics, science and engineering.
 2. Ability to design and conduct experiments, as well as to analyze and interpret data.
 3. Ability to design a system, component, or process to meet desired needs.
 4. Ability to function on multidisciplinary teams.
 5. Ability to identify, formulate, and solve engineering problems.
 6. Understanding of professional and ethical responsibility.
 7. Ability to communicate effectively.
 8. Broad education necessary to understand the impact of engineering solutions in a global and societal context.
 9. Recognition of the need for, and ability to engage in life-long learning.
 10. Knowledge of contemporary issues.
 11. Ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.
 12. Knowledge of time budgeting and management.
 13. Understanding of the need of community involvement through volunteerism.
- b. Department minutes with action: attached.
- c. Program assessment: ABET accreditation
- d. Current and proposed requirements: attached.
- e. Resources required: no change.
- f. Department staffing: no change.
- g. Library holdings: no change

Department of Mechanical & Civil Engineering
Minutes of Meeting
10/19/2007

A brief meeting was called by C. Johnson to approve curriculum changes. The meeting began at 1:01 p.m.
Present were: J. Wilde, K. Chou, P. Tebbe, C. Johnson, J. Park, V. Nikolic, A. Budge, V. Browne

After a brief discussion and proposed changes to the ME curriculum circulated earlier by C. Johnson with an addition suggested by K. Chou, were approved.

The program changes to Civil Engineering were discussed. A vote was taken and these changes were approved also.

The meeting was adjourned at 1:11 p.m.

Respectfully submitted,

Vance Browne

CURRENT

MECHANICAL ENGINEERING BSME

Required (Special General Education, 23 credits):

Science and Mathematics(31):

MATH 121 Calculus I (4)

MATH 122 Calculus II (4)

MATH 223 Calculus III (4)

MATH 321 Ordinary Differential Equations (4)

PHYS 221 General Physics I (5)

PHYS 222 General Physics II (5)

CHEM 201 General Chemistry I (5)

Engineering Science(16):

EE 230 Circuits Analysis I (3)

EE 240 Evaluation of Circuits (1)

ME 101 Introduction to Engineering-Mechanical (2)

ME 103 Computer Graphics Communication (1)

ME 113 Geometric Dimensioning and Tolerancing (1)

ME 201 Intro. to Problem Solving and Engineering

Design(2)

ME 212 Statics (3)

ME 214 Dynamics (3)

PROPOSED

MECHANICAL ENGINEERING BSME

Required (Special General Education, 23 credits):

Science and Mathematics(31):

MATH 121 Calculus I (4)

MATH 122 Calculus II (4)

MATH 223 Calculus III (4)

MATH 321 Ordinary Differential Equations (4)

PHYS 221 General Physics I (4)

PHYS 222 General Physics II (3)

PHYS 232 General Physics II Lab (1)

CHEM 191 Chemistry for Engineers (3)

Science Elective (4)

either PHYS 223(3) and PHYS 233(1)

OR BIOL 105W(4) OR CHEM 202(5)

Engineering Science(16):

EE 230 Circuits Analysis I (3)

EE 240 Evaluation of Circuits (1)

ME 101 Introduction to Engineering-Mechanical (2)

ME 103 Computer Graphics Communication (1)

ME 113 Geometric Dimensioning and Tolerancing (1)

ME 201 Intro. to Problem Solving and Engineering

Design(2)

ME 212 Statics (3)

ME 214 Dynamics (3)

CURRENT (continued)

Required for Major (52 credits):

- EE 244 Introduction to Digital Systems (2)
- EE 253 Logic Circuits Lab (1)
- ME 206 Materials Science (3)
- ME 223 Mechanics of Materials (3)
- ME 241 Thermodynamics (3)
- ME 291 Engineering Analysis (3)
- ME 321 Fluid Mechanics (3)
- ME 324 Heat Transfer (3)
- ME 329 Applied Thermodynamics (3)
- ME 333 Manufacturing Processes (3)
- ME 336 Mechanical Engineering Experimentation I (2)
- ME 341 Linear Systems (3)
- ME 417 Design of Machine Elements (3)
- ME 420 Computer Aided Engineering (3)
- ME 428 Design Project I (3)
- ME 436 Mechanical Engineering Experimentation II (2)
- ME 438 Design Project II (3)
- ME 463 Automatic Controls (3)
- ME 466 Mechanical Engineering Experimentation III (2)
- ME 492 Mechanical Engineering Seminar (1)
- ME Elective(3)
- ME Elective(3)

Consult with your advisor for selection of electives.

Required Minor: None.

PROPOSED (continued)

Required for Major (52 credits):

- EE 244 Introduction to Digital Systems (2)
- EE 253 Logic Circuits Lab (1)
- ME 206 Materials Science (3)
- ME 223 Mechanics of Materials (3)
- ME 241 Thermodynamics (3)
- ME 291 Engineering Analysis (3)
- ME 321 Fluid Mechanics (3)
- ME 324 Heat Transfer (3)
- ME 329 Applied Thermodynamics (3)
- ME 333 Manufacturing Processes (3)
- ME 336 Mechanical Engineering Experimentation I (2)
- ME 341 Linear Systems (3)
- ME 417 Design of Machine Elements (3)
- ME 420 Computer Aided Engineering (3)
- ME 428 Design Project I (3)
- ME 436 Mechanical Engineering Experimentation II (2)
- ME 438 Design Project II (3)
- ME 463 Automatic Controls (3)
- ME 466 Mechanical Engineering Experimentation III (2)
- ME 492 Mechanical Engineering Seminar (1)
- ME Elective(3)
- ME Elective(3)

Consult with your advisor for selection of electives.

Required Minor: None.