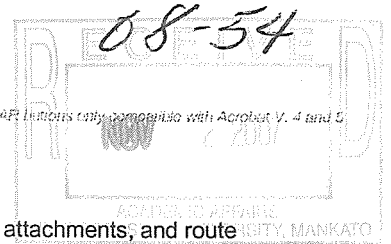




Minnesota State University, Mankato
Curriculum Proposal

HOLD and CLEAR buttons only compatible with Acrobat V. 4 and 5



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> <input checked="" type="checkbox"/> Undergraduate Department: <u>Mechanical Engineering</u> <input type="checkbox"/> Graduate Program: <u>BS in Civil Engineering</u> CIP # _____ Type of Change: <u>PROGRAM PROPOSALS</u> Proposed: <u>Change in Requirements-Course(s) Added</u> Title Current: _____ Title Proposed: _____ 24-Char. Abbrev: _____		(Check all that apply): Proposal # <u>83</u> Effective Date of Change: _____ Academic Year <u>07-08</u> (For Office Use Only) Course Designator and Number _____ Number of Credits _____ (if applicable)
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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

<p>General Education Course:</p> <table border="1"> <tr> <th>GE Category #</th> <th>GE Category Name (Maximum of 3 Categories)</th> </tr> <tr> <td>N/A</td> <td></td> </tr> <tr> <td>N/A</td> <td></td> </tr> <tr> <td>N/A</td> <td></td> </tr> </table> <p>? For Writing Intensive Courses, attach a description of the kind and quantity of writing. ? 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: a. Syllabus or course outline. b. Course's student learning outcomes associated with each GE competency or CD designation. c. List of strategies to be used to assess students' achievement of each GE competency or CD designation.</p>	GE Category #	GE Category Name (Maximum of 3 Categories)	N/A		N/A		N/A		<p>Cultural Diversity Course:</p> <p>(Please check one.)</p> <p><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.)</p> <p><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.)</p>
GE Category #	GE Category Name (Maximum of 3 Categories)								
N/A									
N/A									
N/A									

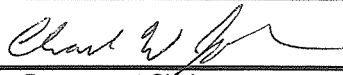
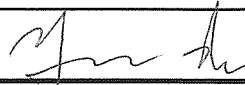
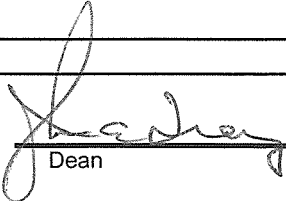
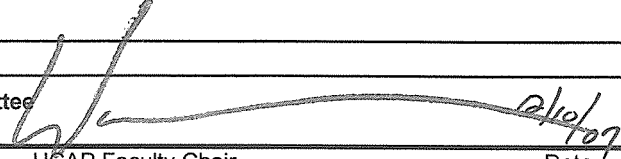

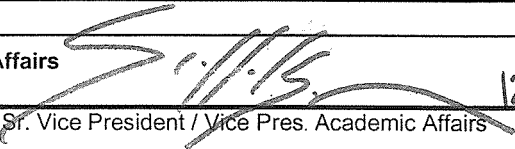
For New Courses

(Check all that apply): <input type="checkbox"/> Course is an elective. <input type="checkbox"/> Course is required for program <input type="checkbox"/> Pre- or Co-requisites: <input type="checkbox"/> Other courses are being changed or eliminated. (Explain.) _____	Instructional Type: <u>Lecture</u> Grading Format: <input type="checkbox"/> Grade <input type="checkbox"/> P/N _____ _____	Course will be offered: <input type="checkbox"/> Fall Semester <input type="checkbox"/> Spring Semester <input type="checkbox"/> Summer Session
<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: a. Syllabus or course outline. b. Course's student learning outcomes. c. A list of resources required to offer and support this course. d. A description of how teaching this course will affect department staffing. e. If 400/500 level course, an explanation of added expectations of graduate students.		



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Signature Page

Department			
<input checked="" type="checkbox"/> Recommended	(Category/ies _____)		12 Oct 2007
<input type="checkbox"/> Not Recommended	(Category/ies _____)	Department Chair	Date
Comments:			
College Curriculum Committee			
<input checked="" type="checkbox"/> Recommended	(Category/ies _____)		10/30/07
<input type="checkbox"/> Not Recommended	(Category/ies _____)	Committee Chair	Date
Comments:			
College Dean			
<input checked="" type="checkbox"/> Recommended	(Category/ies _____)		10/31/07
<input type="checkbox"/> Not Recommended	(Category/ies _____)	Dean	Date
Comments:			
General Education Subcommittee			
<input type="checkbox"/> Recommended	(Category/ies _____)		
<input type="checkbox"/> Not Recommended	(Category/ies _____)	General Education Subcommittee Chair	Date
Comments:			
Undergraduate Curriculum and Academic Policy Committee			
<input checked="" type="checkbox"/> Recommended	(Category/ies _____)		2/10/07
<input type="checkbox"/> Not Recommended	(Category/ies _____)	UCAP Faculty Chair	Date
Comments:			
Faculty Association Graduate Committee			
<input type="checkbox"/> Recommended			
<input type="checkbox"/> Not Recommended		Faculty Association Graduate Chair	Date
Comments:			
Graduate Dean			
<input type="checkbox"/> Recommended			
<input type="checkbox"/> Not Recommended		Graduate Dean	Date
Comments:			
Academic Affairs Council			
<input checked="" type="checkbox"/> Recommended	(Category/ies _____)		12/20/07
<input type="checkbox"/> Not Recommended	(Category/ies _____)	Assistant Vice President	Date
Comments:			
Senior Vice President and Vice President for Academic Affairs			
<input checked="" type="checkbox"/> Approved	(Category/ies _____)		12/20/07
<input type="checkbox"/> Not Approved	(Category/ies _____)	Sr. Vice President / Vice Pres. Academic Affairs	Date
Comments:			

CIVE PROGRAM CHANGE

Rationale: Physics is 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 credits and one of the three plus one results in a decrease of two credits of Physics. This results in two available credits. These credits will be added to the Civil, Science and Technical Electives requirement, thus maintaining the number of credits required for the degree.

- a. Student learning outcomes for the program: No change.
 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

CIVE CURRENT

CIVIL ENGINEERING BSCE

Required (Special General Education, 23 credits):

Science and Mathematics (35 credits):

MATH 121 Calculus I (4)
MATH 122 Calculus II (4)
MATH 223 Calculus III (4)
MATH 321 Ordinary Differential Equations (4)
CHEM 201 General Chemistry I (5)

PHYS 221 General Physics I (5)

PHYS 222 General Physics II (5)

Science Elective from approved list (4)

Basic Engineering Science (25 credits):

CIVE 101 Introduction to Engineering-Civil (2)
CIVE 145 CAD for Civil Engineering (2)
CIVE 201 Intro. to Problem Solving and Civil Engineering Design (2)
CIVE 271 Civil Engineering Measurements (2)
ME 206 Materials Science (3)
ME/CIVE 212 Statics (3)
ME/CIVE 214 Dynamics (3)
ME/CIVE 223 Mechanics of Materials (3)
ME 291 Engineering Analysis (3)
ME 299 Thermal Analysis (2) OR
ME 241 Thermodynamics (3)

CIVE PROPOSED

CIVIL ENGINEERING BSCE

Required (Special General Education, 23 credits):

Science and Mathematics (33 credits):

MATH 121 Calculus I (4)
MATH 122 Calculus II (4)
MATH 223 Calculus III (4)
MATH 321 Ordinary Differential Equations (4)
CHEM 201 General Chemistry I (5)

PHYS 221 General Physics I (4)

PHYS 222 General Physics II (3)

PHYS 232 General Physics II Lab (1)

Science Elective from approved list (4)

Basic Engineering Science (25 credits):

CIVE 101 Introduction to Engineering-Civil (2)
CIVE 145 CAD for Civil Engineering (2)
CIVE 201 Intro. to Problem Solving and Civil Engineering Design (2)
CIVE 271 Civil Engineering Measurements (2)
ME 206 Materials Science (3)
ME/CIVE 212 Statics (3)
ME/CIVE 214 Dynamics (3)
ME/CIVE 223 Mechanics of Materials (3)
ME 291 Engineering Analysis (3)
ME 299 Thermal Analysis (2) OR
ME 241 Thermodynamics (3)

CIVE CURRENT (continued)

Upper Division (45 credits):

- ME/CIVE 321 Fluid Mechanics (3)
- CIVE 340 Structural Analysis (3)
- CIVE 350 Hydraulics & Hydrology (4)
- CIVE 360 Geotechnical Engineering (4)
- CIVE 370 Transportation Engineering (4)
- CIVE 380 Environmental Engineering (3)
- CIVE 401 Civil Engineering Design I (2)
- CIVE 402 Civil Engineering Design II (3)
- CIVE 435 Civil Engineering Experimentation I (2)
- CIVE 436 Civil Engineering Experimentation II (2)
- CIVE 446 Reinforced Concrete Design (3) OR
- CIVE 448 Steel Design (3)

CIVE electives (7-10 credits)

Technical electives from approved list (2-4 credits)

Required Minor: None.

Civil, Science and Technical Electives

A civil engineering student is required to choose a minimum of 16 credits in civil, science and technical electives as follows: science elective (4 credits), technical electives (2-4 credits), and CIVE electives (7-10 credits). The science and technical electives are recommended to be taken after the student has identified his/her area of interest in consultation with his/her academic advisor. Science and technical electives must be selected from the approved lists below which complement the student's area of interest and enhance the student's experience in civil engineering.

CIVE PROPOSED (continued)

Upper Division (45 credits):

- ME/CIVE 321 Fluid Mechanics (3)
- CIVE 340 Structural Analysis (3)
- CIVE 350 Hydraulics & Hydrology (4)
- CIVE 360 Geotechnical Engineering (4)
- CIVE 370 Transportation Engineering (4)
- CIVE 380 Environmental Engineering (3)
- CIVE 401 Civil Engineering Design I (2)
- CIVE 402 Civil Engineering Design II (3)
- CIVE 435 Civil Engineering Experimentation I (2)
- CIVE 436 Civil Engineering Experimentation II (2)
- CIVE 446 Reinforced Concrete Design (3) OR
- CIVE 448 Steel Design (3)

CIVE electives (minimum 9 credits)

Technical electives from approved list (minimum 2 credits)

Required Minor: None.

Civil, Science and Technical Electives

A civil engineering student is required to choose a minimum of 18 credits in civil, science and technical electives as follows: science elective (4 credits), technical electives (minimum 2 credits), and CIVE electives (minimum 9 credits). The science and technical electives are recommended to be taken after the student has identified his/her area of interest in consultation with his/her academic advisor. Science and technical electives must be selected from the approved lists below which complement the student's area of interest and enhance the student's experience in civil engineering.

CIVE CURRENT (continued)

Approved Science Electives:

BIOL 105W General Biology I (4)
CHEM 202 General Chemistry II (5)
ENVR 101 Perspectives in Environmental. Science (4)
GEOL 121 Physical Geology (4)

Approved Technical Electives:

All CIVE courses except required courses

All EE courses 300-level and above and EE 250 (Engineering Economics)

All ME courses 300-level and above except required courses

BIO 270 Microbiology (4)
BLAW 450 Contracts, Sales & Prof. Responsibility (3)
BLAW 453 International Legal Environ. of Business (3)
BLAW 474 Environ. Regulation & Land Use (3)
BLAW 476 Construction and Design Law (3)
CHEM 305 Analytical Chemistry (4)
CHEM 407 Water Chemistry (3)
ENVR 440 Environmental Regulations (3)
ENVR 450 Environmental Pollution & Control (3)
ENVR 460 Analysis of Pollutants (4)
GEOL 270 Structural Geology (4)
GEOL 351 Engineering Geology (2)
GEOL 450 Hydrogeology (3)

CIVE PROPOSED (continued)

Approved Science Electives:

BIOL 105W General Biology I (4)
CHEM 202 General Chemistry II (5)
ENVR 101 Perspectives in Environmental. Science (4)
GEOL 121 Physical Geology (4)

Approved Technical Electives:

All CIVE courses except required courses

All EE courses 300-level and above and EE 230 (Circuit Analysis I)

All ME courses 300-level and above except required courses

BIO 270 Microbiology (4)
BLAW 450 Contracts, Sales & Prof. Responsibility (3)
BLAW 453 International Legal Environ. of Business (3)
BLAW 474 Environ. Regulation & Land Use (3)
BLAW 476 Construction and Design Law (3)
CHEM 305 Analytical Chemistry (4)
CHEM 407 Water Chemistry (3)
ENVR 440 Environmental Regulations (3)
ENVR 450 Environmental Pollution & Control (3)
ENVR 460 Analysis of Pollutants (4)
GEOL 270 Structural Geology (4)
GEOL 351 Engineering Geology (2)
GEOL 450 Hydrogeology (3)