05-75

Minnesota State University, Mankato

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.

		(Check all that apply):	Proposal # 151
College:	Science, Engineering and Technology	☒ Undergraduate	Effective Date of Change:
Department:	Mechanical Engineering	☐ Graduate	Academic Year 05
Program:	Mechanical Engineering	CIP # _____	(For Office Use Only)
Type of Change Proposed:	COURSE PROPOSALS / Change in Course—Other		
Title Current:	Introduction to Problem Solving and Engineering Design		
Title Proposed:	Introduction to Problem Solving and Engineering Design		
24-Char. Abbrev:	Intro Pb Solv & Engr Des		

Course Designator and Number	**Number of Credits**
ME 201	2
ME 201	2

(if applicable)

Include a course or program description for the Bulletin (30-40 words maximum for courses, 100 for programs):
This course has two main parts. Part one covers problem solving and fundamentals of programming including data types, decision making, repetitive loops, and arrays. Engineering applications requiring programming are included. Part two covers engineering design philosophy and methodology, communication skills, and teamwork. A design project is also included. Pre: ME 101; Co-Req: ME 103 and Math 121

Rationale or Justification for change:
Co-requisites added to the course. In order for the students to be prepared for the problem solving skills, computational tools, and programming logic introduced in the course to solve some basic engineering problems, the students must have mathematical knowledge in areas such as algebra, graphs of functions, analytical geometry, and exponential and trigonometric functions.

For General Education or Cultural Diversity Courses Only

General Education Course:

GE Category #	GE Category Name (Maximum of 3 Categories)
N/A	
N/A	
N/A	

- 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.

Cultural Diversity Course:

(Please check one.)

☐ **Core** (At least 75% devoted to topics of race, gender, sexual orientation, age, class, and disabilities as they occur in United States Society.)

☐ **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.)

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.

For New Courses

(Check all that apply:)

☐ Course is an elective.

☒ Course is required for program: Civil Engineering

☒ Pre- or Co-requisites: Pre: ME 101, Co-Req: ME 103 and Math 121

Instructional Type: Lecture/Lab

Grading Format: ☒ Grade ☐ P/N

Course will be offered:
☒ Fall Semester
☒ Spring Semester
☐ Summer Session

☐ Other courses are being changed or eliminated. (Explain.)

☐ 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.

Minnesota State University, Mankato

Curriculum Proposal

*****Signature Page*****

Department

✓ Recommended (Category/ies_____)
__ Not Recommended (Category/ies_____)

Saeed Moaveni — Department Chair — 2/11/05 — Date

Comments:

College Curriculum Committee

X Recommended (Category/ies_____)
__ Not Recommended (Category/ies_____)

Kaun C. Chou — Committee Chair — 2/24/05 — Date

Comments:

College Dean

✓ Recommended (Category/ies_____)
__ Not Recommended (Category/ies_____)

Dean — 3/1/05 — 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_____)

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_____)

Assistant Vice President — Date

Comments:

Senior Vice President and Vice President for Academic Affairs

__ Approved (Category/ies_____)
__ Not Approved (Category/ies_____)

Sr. Vice President / Vice Pres. Academic Affairs — Date

Comments:

Minnesota State University
Department of Mechanical & Civil Engineering

ME 201 – Introduction to Problem Solving and Engineering Design

Proposed Change

Add Math 121 as co-requisites

2004-05 Bulletin Listing

This course has two main parts. Part one covers problem solving and fundamentals of programming including data types, decision making, repetitive loops, and arrays. Engineering applications requiring programming are included. Part two covers engineering design philosophy and methodology, communication skills, and teamwork. A design project is also included. Pre: ME 101; Co-Req: ME 103

Proposed Bulletin Listing

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