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Minnesota State University, Mankato HOLD and CLEAR buttons only compatible with Acrobat V. 4 and 5
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> <input checked="" type="checkbox"/> Undergraduate Department: <u>Mathematics and Statistics</u> <input type="checkbox"/> Graduate Program: _____ CIP # _____ Type of Change: <u>N/A CHANGE IN PREREQUISITES</u> Proposed: <u>N/A</u> Title Current: <u>Introduction to Discrete Mathematics</u> Title Proposed: _____ 24-Char. Abbrev: _____		(Check all that apply): Proposal # <u>206</u> Effective Date of Change: _____ Academic Year <u>05-06</u> (For Office Use Only)						
		<table border="1"> <thead> <tr> <th>Course Designator and Number</th> <th>Number of Credits</th> </tr> </thead> <tbody> <tr> <td>Math 375</td> <td>4</td> </tr> <tr> <td colspan="2" style="text-align: center;">(if applicable)</td> </tr> </tbody> </table>	Course Designator and Number	Number of Credits	Math 375	4	(if applicable)	
Course Designator and Number	Number of Credits							
Math 375	4							
(if applicable)								

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

MATH 375 Introduction to Discrete Mathematics (4 credits)
An introduction to the concepts fundamental to the analysis of algorithms and their realization. Topics will include combinatorics, generating functions, recurrence relations, graph theory, and networks. Pre: MATH 180 or 290 or consent. F, S MATH 247. MATH 290 PREFERRED. F, S

Rationale or Justification for change:

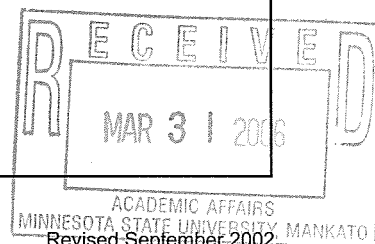
-- see attached

*****For General Education or Cultural Diversity Courses Only*****

General Education Course: GE Category # GE Category Name (Maximum of 3 Categories) <u>N/A</u> <u>N/A</u> <u>N/A</u>		Cultural Diversity Course: (Please check one.) <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.)
? 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.		
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): <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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*****For Program Proposals*****

Attach paper copies of the following:

- a. Student learning outcomes for the program.
- b. Minutes from department and college curriculum meetings in which action was taken on this proposal.
- c. Program Assessment Plan. Forms are available on the Academic Affairs Web site:
http://www.mnsu.edu/acadaf/words/PRA_SampSLOAssessPlan.doc
- d. List of program requirements for **New** programs, or a list of **Current** and **Proposed** program requirements for **Redesigned** programs.
- e. A list of resources required to offer and support this program.
- f. A description of how offering this program will affect department staffing.
- g. A list of additional library holdings required for this program.

Please include rationale for any proposed changes in number of program credits:

*****For Programs Requiring MnSCU Approval*****

If any of the following changes are proposed, please fill out and attach MnSCU Program Approval Forms, which are available on the Academic Affairs Web site:

<http://www.mnsu.edu/acadaf/html/currformsprocesses.htm>

1. **Creation** of an entirely new program.
2. **Redesign** of existing programs, which takes any of the following forms:
 - ? Addition or deletion of a program option. Options are part of program design in which 30-50% of the courses are required as part of a common core for all students, and which offers curriculum alternatives greater than 30% of the total number of credits in the major. Options are appropriate to baccalaureate or masters programs.
 - ? Addition or deletion of a program emphasis. Emphases are part of program design in which more than 50% of the courses are required as part of a common core for all students, and which offers curriculum alternatives with a minimum of nine credits. Emphases are appropriate to associate and baccalaureate programs.
 - ? Change in program name.
 - ? Change in program CIP #.
 - ? Change in TOTAL program credits.
 - ? Change in degree award. For example, changing a B.A. to B.S.
 - ? Creation of a new degree award in a related academic area. Examples include creation of a certificate program from an existing degree program, or a new degree program from an existing degree program (e.g., Art History BA from Art BA.)
3. **Relocation** of an existing program. This is a proposal to move an existing program from one site to be exclusively offered at another site, and requires closing the program offered at the original site. For example, a program offered both on-campus and through extended campus is to be offered only at the extended campus site.
4. **Replication** of an existing program. This is a proposal to offer an existing program at a new site, which may be an existing MnSCU-approved site, or another campus of the same institution. Replicated programs are offered at both the original site and the new location.
5. **Suspension** or **reinstatement** of a program. This proposal suspends admission of students into an existing program, and is good for three years. Reinstatement proposals request the reopening of student admissions into a given program.
6. **Closure** of a program. This proposal requests closure of an existing program and its from an institution's official inventory of academic programs. Unless a department seeks to re-open a suspended program, it should be closed within three years of suspension.



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Signature Page

Department

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

Larry Pearson 1/19/06
 Department Chair Date

Comments:

College Curriculum Committee

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

Al Maloney 3-28-06
 Committee Chair Date

Comments:

College Dean

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

[Signature] 3/28/06
 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 _____)

Mark Pomije 4/28/06
 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 _____)

[Signature] 5/4/06
 Assistant Vice President Date

Comments:

Senior Vice President and Vice President for Academic Affairs

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

[Signature] 5/4/06
 (Sr. Vice President/ Vice Pres. Academic Affairs) Date

Comments:

More information about the proposed change in prerequisites for Math 375:

Current wording:

Math 180 or 290 or consent

Proposed new wording:

Math 247. Math 290 preferred.

Rationale:

In the experience of Dan Singer, whose background is in Discrete Math and who has taught Math 375 ten times in the last 4 years, Math 180 is not adequate preparation for Math 375, and almost nobody who has taken the course from him has met any of the three alternative prerequisites. Ideally, we would force all students to take Math 290 before taking Math 375, so that the instructor can count on students having some experience with reading and writing proofs. However, making Math 290 a prerequisite for Math 375 would meet with resistance from the Computer Science and Information Sciences department because of the additional credit load on their students. A compromise prerequisite is Math 247. Students meeting this prerequisite will have at least been exposed to proofs and will have taken Math 121 and Math 122. Moreover, CIS students who take Math 375 (Computer Science BS program) also need to take Math 247 at some point anyway to satisfy their Major Core requirements, so CIS would have no objection to this proposal.

From the Mathematics and Statistics Department Meeting Minutes Friday, November 18, 2005:

Wiest moved and Olson seconded, "Accept prerequisites for Math 375" (*The current prerequisite for Math 375 is Math 180 or Math 290, we propose to change it to Math 247. This is proposed in response to 180 not being enough of a prerequisite for CS majors taking 375. They are taking 247 as part of their program, this will ensure they take it prior to 375 and will then have been exposed to proof prior to taking 375.*)