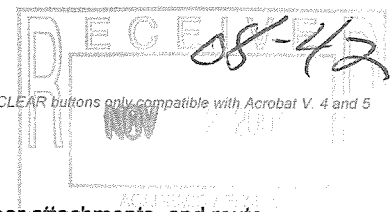




Minnesota State University, Mankato
Curriculum Proposal

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: Science, Engineering and Technology		(Check all that apply):		Proposal #	78
Department: Mathematics and Statistics		<input checked="" type="checkbox"/> Undergraduate		Effective Date of Change:	
Program: Mathematics		<input type="checkbox"/> Graduate		Academic Year	07-08
Type of Change: COURSE PROPOSALS		CIP #		(For Office Use Only)	
Proposed: Change in Course—Other				Course Designator and Number	Number of Credits
Title Current: Trigonometry				Math 113	3
Title Proposed:					
24-Char. Abbrev:				(if applicable)	

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

See attached sheet to amend the prerequisites. Delete "successful completion of Math 098" and add "Math 112 with "C" or better"

Rationale or Justification for change:

Math 112 is the prerequisite, not Math 098. This corrects an error in the listing.

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>4</td> <td>Mathematical/Logical Reasoning</td> </tr> <tr> <td>N/A</td> <td></td> </tr> <tr> <td>N/A</td> <td></td> </tr> </table>		GE Category #	GE Category Name (Maximum of 3 Categories)	4	Mathematical/Logical Reasoning	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)									
4	Mathematical/Logical Reasoning									
N/A										
N/A										
<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: Lecture	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.)		
<p>Attach paper copies of the following:</p> <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. 		



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Signature Page

Department			
<input checked="" type="checkbox"/> Recommended	(Category/ies <u>4</u>)	<u>Ernest Boyd</u>	<u>16 Oct 07</u>
<input type="checkbox"/> Not Recommended	(Category/ies _____)	Department Chair	Date
Comments:			
College Curriculum Committee			
<input checked="" type="checkbox"/> Recommended	(Category/ies _____)	<u>[Signature]</u>	<u>10/30/07</u>
<input type="checkbox"/> Not Recommended	(Category/ies _____)	Committee Chair	Date
Comments:			
College Dean			
<input checked="" type="checkbox"/> Recommended	(Category/ies _____)	<u>[Signature]</u>	<u>10/31/07</u>
<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 _____)	<u>[Signature]</u>	<u>12/10/07</u>
<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 _____)	<u>[Signature]</u>	<u>12/20/07</u>
<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 _____)	<u>[Signature]</u>	<u>12/20/07</u>
<input type="checkbox"/> Not Approved	(Category/ies _____)	Sr. Vice President / Vice Pres. Academic Affairs	Date
Comments:			

Advising Suggestions. A person with a major in mathematics is encouraged to have a significant concentration in an area of recognized application. By proper selection of electives and willingness to exceed the required minimum number of credits for graduation, a student may earn a second major in fields such as accounting, business administration, biology, chemistry, computer science, economics, environmental sciences, geography, or physics.

COURSE DESCRIPTIONS

MATH 094 (4) Essential Mathematics with Elementary Algebra

Basic mathematics skills integrating the fundamental operations of whole numbers, integers, fractions, decimals, percents, ratio and proportion with the elementary algebra topics of linear equations and inequalities, graphs, exponents, polynomials and factoring. Credit does not apply toward graduation. P/N only.

Summer

MATH 098 (4) Intermediate Algebra

Topics covered include intermediate study of graphs, systems of linear equations, introduction to functions, linear and nonlinear inequalities, factoring, rational expressions and equations, radicals, and basic quadratic equations. Credit does not apply toward graduation.

P/N only

Fall, Spring

MATH 110 (3) Perspectives in Mathematics

A survey of mathematics and its relationship to society, showing its development and evolution to meet the needs of mankind.

Pre: Three years high school algebra/geometry or MATH 098

Fall, Spring

GE-4

MATH 112 (4) College Algebra

Concepts of algebra (real numbers, exponents, polynomials, rational expressions), equations and inequalities, functions and graphs, polynomial and rational functions, exponential and logarithmic functions, systems of equations and inequalities, matrices and determinants, conic sections, sequences and series, probability, and binomial theorem.

Pre: Must achieve a score of 18 or better on the MnSCU Math Readiness Test, or have achieved an ACT Math subscore of 19 or higher, or successful completion of Math 098.

Fall, Spring

GE-4

MATH 113 (3) Trigonometry

Basic concepts of trigonometry as preparation for college level mathematics and science course work. Topics include concepts of algebra (real numbers, functions, graphs of functions, exponential and logarithmic functions), trigonometric functions, analytic trigonometry, applications of trigonometry, and analytic geometry.

Pre: Must achieve a score of 18 or better on the MnSCU Math Readiness Test, or have achieved an ACT Math subscore of 19 or higher, or successful completion of MATH 098.

Fall, Spring

GE-4

MATH 115 (4) Precalculus Mathematics

This course will cover topics of precalculus mathematics. Topics covered will include functions, graphs of functions, exponential and logarithmic functions, conic sections, systems of equations, and inequalities, matrices, trigonometric functions, circular functions, vectors and complex numbers, induction, series, and probability.

Pre: Must achieve the appropriate score on the Intermediate Algebra Placement Test, Functions and Graphs Placement Test or ACT math subscore (see Placement Table). Alternatively, must successfully complete Math 098 and receive permission from the department chair.

Fall, Spring

GE-4

Mathematics and Statistics Department
Meeting Minutes
October 12, 2007

Present: Boyd, Guy, Harper, Haskins, Hermann, Kim, Kitsul, W. Lee,
Pearson, Rahman, Regas, Singer, Stehr, Tsao,, Waters, Wiest, Yin, Zuiker.

1. Minutes of the August 23, 2007 meeting were approved.
2. Singer moved and Zuiker seconded the following Math 130 motion. Motion passed

Motion: Whereas the College of Business desires to replace its requirement of Math 112 College Algebra (4 credits) by a new course called Finite Mathematics and Introductory Calculus (4 credits) designed in cooperation with the Department of Mathematics and Statistics, we move to change the title and number of credits of Math 130 from Finite Mathematics and Its Applications (3 credits) to Finite Mathematics and Introductory Calculus (4 credits) and submit a course redesign application to the CSET Curriculum Committee.

3. Singer moved and Waters seconded the following Math 470 motion. Motion passed

Motion: Whereas few students who enroll in Math 470 Numerical Analysis I (4 credits) have a programming background, and the course is taught without requiring a programming background, we move to change the description of Math 470 to eliminate the prerequisite for a formal programming language, and submit a course description change application to the CSET Curriculum Committee.

Proposed Bulletin Description

This course provides an introduction to techniques and analysis involved with solving mathematical problems using technology. Topics included are errors in computation, solutions of linear and nonlinear equations, numerical differentiation and integration, and interpolation. Pre: Math 122 and Math 247.

4. Singer moved and Herman seconded the following motion changing the prerequisite for Math 113 from Math 098 to Math 112. Motion passed.

Motion: Where are currently advising students to take Math 112 before taking Math 113, and whereas the Curriculum Committee feels that Math 112 is better preparation for Math 113 than Math 098, we move to change the wording of the prerequisites for Math 113 Trigonometry (4 credits) from "or successful completion of Math 098" to "or Math 112 with "C" or better."

5. Singer moved and Zuiker seconded the motion regarding Math 181.

6. Zuiker moved and Singer seconded an amendment to reword the motion. Amendment passed.

7. The following motion passed.

Motion: Whereas the Curriculum Committee was charged with developing a calculus course that will meet the needs of students seeking middle school licensure, we move that the Department of Mathematics and Statistics request that the registrar's office place a note in the Fall course schedule indicating that the 10 am section of Math 181 (3 credits) will admit Elementary Education Majors only.

8. Singer moved and Zuiker seconded the following motion to withdraw Math 184. Motion passed.

Motion: Whereas Math 184 Mathematical Reasoning (3 credits) is no longer offered, we move that it be withdrawn, and an application for withdrawal be submitted to the CSET Curriculum Committee.