

MESABI RANGE COMMUNITY & TECHNICAL COLLEGE

Course Outline

Course Title: Calculus I

Semester Course Prefix and Number: MATH 1561

Old Quarter Course Prefix and Number: MATH 121

Submitted By: Math Dept.

Approval Date: December 2012

Revision Date: December 2012

Number of Credits: 5

Semester(s) Offered:

Class Size: 35.

Negotiated by AASC on:
(date)

Number of Lecture Credits: 5

Number of Lab Credits: Number of Lab Hours:

Number of Studio/Demonstration/Internship Credits:

Course Purpose Code:

- 0 – Developmental Courses
- 1 – Non-transferable
- 2 – Technical course related to career programs
- 3 – College course which has the primary goal of applying certain concepts (e.g. vocal ensemble)
- 4 – Other college course not considered a part of MNTC (e.g. computer science, health, physical education)
- 5 – Course which is intended to fulfill the Minnesota Transfer Curriculum (MNTC) requirements or intended for transfer.
- 9 – Continuing Education/Customized Training specialized credit course (not occurring in 0-5)

Catalog Description:

This course examines limits, continuity, fundamentals of differentiation and integration of functions of one variable, and applications of differentiation and integration.

Prerequisites and/or recommended entry skills/knowledge:

Course Prerequisite(s): None

Reading Prerequisite: None

Composition Prerequisite: None

Mathematics Prerequisite: MATH 1521 (or previous MATH 117 or MATH 119) and MATH 1547, or satisfactory math placement scores

Career Programs and Transfer Majors Accessing this Course:

The course is intended for math and science majors, students in pre-professional curriculums (such as pre-engineering, pre-medicine, pre-pharmacy), and would be an added advantage in other curriculums (such as business), though it is not required.

Minnesota Transfer Curriculum Goal(s) partially met by this course if applicable:

(Notes: No more than two goals may be met by any one course. Curriculum Committee review and the Chief Academic Officer's approval are required.)

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| 0. <input type="checkbox"/> None | 6. <input type="checkbox"/> The Humanities and Fine Arts |
| 1. <input type="checkbox"/> Communications | 7. <input type="checkbox"/> Human Diversity |
| 2. <input type="checkbox"/> Critical Thinking | 8. <input type="checkbox"/> Global Perspectives |
| 3. <input type="checkbox"/> Natural Sciences | 9. <input type="checkbox"/> Ethical and Civic Responsibility |
| 4. <input checked="" type="checkbox"/> Mathematical/Logical Reasoning | 10. <input type="checkbox"/> People and the Environment |
| 5. <input type="checkbox"/> History and the Social and Behavioral Sciences | |

Learning Outcomes: (including any relevant competencies listed in the Minnesota Transfer Curriculum)

Upon completion of this course, the student will be able to:

- Apply rules of differentiation to algebraic and trigonometric functions.
- Apply rules of integration to algebraic and trigonometric functions.
- Apply high-order problem solving and modeling strategies for related rate problems, optimization problems, and integration applications.
- Communicate mathematically.

Student Assessment Methods:

- Homework
- Quizzes
- Exams

Use of Instructional Technology: (includes software, interactive video and other instructional technologies):

Students are encouraged to use graphing calculators. (TI-89 recommended but not required.)

Additional Special Information: (special fees, directives on hazardous materials, etc.)

Transfer Information: (Please list colleges/majors that accept this course in transfer.)

This course has transferred to every college are students have ever attended except the military academies.

Course Outline Revision History:

Approvals:

Body	Representative Signatures	Date
Curriculum Committee		
Faculty Association		
Academic Affairs Standards Committee		
Chief Academic Officer		

Distribution: Original – Instructional Servi
Copies: Transfer Specialist, Original
Revised: March 2010