

# MESABI RANGE COMMUNITY & TECHNICAL COLLEGE

## Course Outline

Course Title: Foundations of Mathematics

Submitted By: Math  
Department

Semester Course Prefix and Number: MATH 1511

Approval Date: January 2013

Old Quarter Course Prefix and Number: Math 105

Revision Date: December 2012

Number of Credits: 3

Number of Lecture Credits: 3

Semester(s) Offered:

Number of Lab Credits: Number of Lab Hours:

Class Size: 35

Number of Studio/Demonstration/Internship Credits:

Negotiated by AASC on  
(date)

### 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)

  x   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 is designed to introduce fundamental math concepts such as sets and logic, develop geometric and quantitative skills and cover applications to probability and statistics.

### Prerequisites and/or recommended entry skills/knowledge:

Course Prerequisite(s): None

Reading Prerequisite: None

Composition Prerequisite: None

Mathematics Prerequisite: Placement by CPT score or a grade of "C" or higher in MATH 0095

### Career Programs and Transfer Majors Accessing this Course:

### 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. AASC review and the Chief Academic Officer's approval are required.)

0. \_\_\_\_\_ None

6. \_\_\_\_\_ The Humanities and Fine Arts

1. \_\_\_\_\_ Communications

7. \_\_\_\_\_ Human Diversity

2. \_\_\_\_\_ Critical Thinking

8. \_\_\_\_\_ Global Perspectives

3. \_\_\_\_\_ Natural Sciences

9. \_\_\_\_\_ Ethical and Civic Responsibility

4.   x   Mathematical/Logical Reasoning

10. \_\_\_\_\_ People and the Environment

5. \_\_\_\_\_ 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:

- Demonstrate knowledge of numeration systems and their application to understanding computers.
- Demonstrate knowledge of set theory and its application to solving survey problems.
- Explain what constitutes a valid mathematical/logical argument (proof) using both inductive and deductive reasoning.
- Apply high-order problem solving and/or modeling strategies to solve algebraic, geometric and statistical problems.

**Student Assessment Methods:**

Graded homework, chapter tests, projects, and/or final exam

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

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

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

This course is the most popular course for non-math and non-science majors to take for the graduation requirement to complete their AA degree and their Minnesota Transfer Curriculum requirement for goal 4. This course then transfers as their math requirement.

**Affiliated Mesabi Range College Courses and Programs:**

**Approvals:**

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

**Distribution:** Original – Instructional Services  
**Copies:** Transfer Specialist, Originating Faculty Member, Records  
**Revised:** December 2012