**Course Outline**

**Course Title:** Foundations of Mathematics

**Semester Course Prefix and Number:** MATH 1511

**Old Quarter Course Prefix and Number:**

**Number of Credits:** 3

**Number of Lecture Credits:** 3

**Number of Lab Credits:**

**Number of Lab Hours:**

**Number of Studio/Demonstration/Internship Credits:**

**Number of Lecture Credits:** 3

**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)
- **X** – Course which is intended to fulfill the Minnesota Transfer Curriculum (MNTC) requirements or intended for transfer.
- **6** – 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):**
- **Reading Prerequisite:**
- **Composition Prerequisite:**
- **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.)

<table>
<thead>
<tr>
<th>Goal</th>
<th>Met by Course</th>
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<tbody>
<tr>
<td>0.</td>
<td>None</td>
</tr>
<tr>
<td>1.</td>
<td>Communications</td>
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<tr>
<td>2.</td>
<td>Critical Thinking</td>
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<tr>
<td>3.</td>
<td>Natural Sciences</td>
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<td>4.</td>
<td><strong>X</strong> Mathematical/Logical Reasoning</td>
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<td>5.</td>
<td>History and the Social and Behavioral Sciences</td>
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<td>6.</td>
<td>The Humanities and Fine Arts</td>
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<td>7.</td>
<td>Human Diversity</td>
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<td>8.</td>
<td>Global Perspectives</td>
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<td>9.</td>
<td>Ethical and Civic Responsibility</td>
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<td>10.</td>
<td>People and the Environment</td>
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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 May Include:
Will be determined by the Instructor.

Use of Instructional Technology May Include: (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:

<table>
<thead>
<tr>
<th>Body</th>
<th>Representative Signatures</th>
<th>Date</th>
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<tbody>
<tr>
<td>Faculty Association</td>
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<td>Academic Affairs Standards Committee</td>
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<td>Chief Academic Officer</td>
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Distribution: Original – Instructional Services
Copies: Transfer Specialist, Originating Faculty Member, Records
Revised: February 2019