### Course Outline

**DEPT.** MATH  
**COURSE NUMBER:** 0117

**NUMBER OF CREDITS:** 2  
**Lecture:** 2  
**Lab:** 0  
**OJT:** 0

<table>
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<th>Course Title:</th>
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<tbody>
<tr>
<td>Co-requisite with Concepts in Math</td>
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<th>Catalog Description:</th>
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<td>Co-requisite with Concepts in Math supports students who qualify with additional review, just-in-time learning, deeper conceptual development, repetition over time, and learning skills and habits required to be successful with the corresponding college level Math 1107 Concepts in Math course taken concurrently.</td>
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<th>Prerequisites or Necessary Entry Skills/Knowledge:</th>
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<td>ACT 11-14 of placement by multiple measures.</td>
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### Fulfills MN Transfer Curriculum Area(S) *(Leave blank if not applicable)*

- [ ] Goal 1: Communication: By meeting the following competencies:
- [ ] Goal 2: Critical Thinking: By meeting the following competencies:
- [ ] Goal 3: Natural Sciences: By meeting the following competencies:
- [ ] Goal 4: Mathematics/Logical Reasoning: By meeting the following competencies:
- [ ] Goal 5: History and the Social and Behavioral Sciences: By meeting the following competencies:
- [ ] Goal 6: The Humanities and Fine Arts: By meeting the following competencies:
- [ ] Goal 7: Human Diversity: By meeting the following competencies:
- [ ] Goal 8: Global Perspective: By meeting the following competencies:
- [ ] Goal 9: Ethical and Civic Responsibility: By meeting the following competencies:
- [ ] Goal 10: People and the Environment: By meeting the following competencies:

### Topics to be Covered

- Growth Mindset, Study Skills and Habits
- Number Theory and the Real Number System
- Using Algebra to Model authentic situations
- Mathematics of Finance
- Geometry
- Trigonometry
- Intro to Statistics

### Student Learning Outcomes
### Process Standards
- Solve authentic problems by applying two or more mathematical strategies or concepts and using multiple steps.
- Interpret and communicate quantitative information and mathematical concepts using appropriate language for the context.
- Present written or verbal justifications that include appropriate discussion of the mathematics involved.
- Use estimation skills to predict and check answers to mathematical problems in order to determine reasonableness of solutions.
- Make sense of problems, develop strategies to find solutions, and persevere in solving them.
- Read and interpret authentic texts containing quantitative information.
- Use technology when appropriate for a given context.

### Topical Standards
- Develop study skills, habits, and perseverance needed in college Math courses.
- Demonstrate fluency with order of operations on real numbers through verbal and symbolic communication.
- Represent fractions, decimals, and percentages in equivalent forms.
- Demonstrate fluency when ordering real numbers.
- Demonstrate an understanding of large and small numbers by interpreting and communicating with different forms (including words, fractions, decimals, standard notation, and scientific notation).
- Describe quantitative relationships and solve problems in a variety of contexts.
- Analyze, represent, and solve authentic problems involving proportional relationships and percentages with appropriate use of units.
- Read, interpret, and make reasoned conclusions about data that is summarized in a table or a graphical display.
- Use the Cartesian coordinate system to graph points and equations.
- Use and interpret variables as unknowns, in equations, in simplifying expressions, and as quantities that vary.
- Evaluate algebraic expressions for a given value or values.
- Model and solve applied problems involving both linear and nonlinear relationships.
- Express and interpret relationships using equality and inequality symbols.
- Graph inequalities on a number line.
- Recognize when a linear model is appropriate
- Solve linear equations.
- Apply linear models to solve problems using tables, graphs, words and/or equations.
- Calculate and interpret a rate of change as given by a symbolic, graphical, or numerical representation.
- Apply appropriate formulas to solve problems involving perimeter, area, and volume.
- Represent measurements with appropriate units.
- Convert among units of measurement.

*Is this course part of a transfer pathway: Yes ☐ No ☒

*If yes, please list the competencies below

Revised Date: 4/6/2022