



STEPHEN F. AUSTIN STATE UNIVERSITY

Department of Mathematics and Statistics

MATH 0350 – Introduction to Foundation of Mathematics I Corequisite Support Course Syllabus

Course Description: This non-credit course provides just-in-time academic support for students concurrently enrolled in **MATH 1350 – Foundations of Mathematics I**. The course reinforces foundational skills in number operations, algebraic reasoning, and problem solving while emphasizing mathematical communication, confidence, reasoning, and study skills.

Students participate in structured problem-solving, guided practice, and reflective exercises to build persistence, organize solutions, and clearly communicate reasoning. Critical thinking, effective study strategies, and empirical reasoning are threaded throughout all units to support student success in the credit-level course.

Credit hours: 3

Course Corequisites: MATH 1350

Course Outline: Units may include (aligned with MATH 1350 topics) –

1. Techniques of Problem Solving and Estimation Skills: Explicit instruction in Critical Thinking, Communication and Empirical and Quantitative Reasoning is in addition to implicit instruction, modeling and practice that occur daily in the discussion of numbers and operations. This explicit instruction includes explanation of solving mathematical problems by thinking critically, communicating logically ordered solutions with complete and correct notation, and applying empirical or quantitative skills as appropriate to the problem.
2. Whole Numbers and Numeration: Concepts and Algorithms: Clear solution organization, communication of reasoning, confidence in applying algorithms
3. Number Theory: Logical justification, reasoning, and communicating methods clearly
4. Integers - Concepts and Algorithms: Confidence in problem solving, reasoning through operations, clear presentation of solutions
5. Real Numbers - Concepts and Algorithms: Applying reasoning to real-world contexts, communicating ideas effectively, reinforcing study skills
6. Explicit Instruction in Critical Thinking, Communication, and Quantitative Reasoning: Explanation of solving mathematical problems by thinking critically, communicating logically ordered solutions with complete and correct notation, and applying empirical or quantitative skills as appropriate to the problem

Student Learning Outcomes (SLO): Upon successful completion of this course, students will be able to:

1. Solve a variety of problems using multiple problem-solving techniques, including Polya's problem-solving process.
2. Demonstrate understanding of foundational concepts underlying standard and non-standard algorithms for operations on whole numbers, integers, and real numbers.
3. Communicate mathematical knowledge effectively in multiple formats: verbally, concretely, and in writing.
4. Define, identify, and use the fundamental properties of whole numbers, integers, and real number operations.
5. Provide logical justification of mathematical thinking and apply reasoning to solve problems.
6. Use mathematical language and notation appropriately to explain ideas clearly and systematically.
7. Develop confidence and persistence in approaching mathematical tasks and problem-solving challenges.
8. Employ math-specific study strategies, including note-taking, error analysis, and time management, to enhance learning and performance in MATH 1350.

There are no specific program learning outcomes for this major addressed in this course. It is a general education core curriculum course and/or a service course.

Date of document: 8/24/2026