

JAMESTOWN COMMUNITY COLLEGE
State University of New York

INSTITUTIONAL COURSE SYLLABUS

Course Title: Math for Elementary Teachers

Course Abbreviation and Number: MAE 2510

Credit Hours: 3

Course Type: Lecture

Course Description: Students will develop the skills necessary to effectively teach mathematics at the elementary school level. Topics of study will include problem solving, operations in the base-ten whole number system (as well as other bases), operations with fractions, operations with integers, operations with decimals and percent's, relations and functions, estimation, number theory, and ratios and proportions. While there will be review of the basic mathematics used at the elementary school level, the emphasis of this course will be for students to understand why those mathematical procedures work and how to construct appropriate lessons and activities to illustrate the ideas to elementary students using a variety of concrete methods.

Prerequisites: Fulfillment of the math requirement in the student's degree program, and sophomore standing.

Student Learning Outcomes:

Students who demonstrate understanding can:

1. Accurately perform computations for basic skill problems in base-10.
 2. Accurately represent numbers and perform arithmetic computations in bases other than base-10.
 3. Apply fundamental elements of number theory such as: rules of divisibility, prime number factorization, least common multiple, and greatest common factor.
 4. Use diagrams or manipulatives to represent and solve mathematical problems.
 5. Choose and apply appropriate problem-solving strategies to solve mathematical problems.
 6. Identify and apply non-standard approaches and algorithms such as missing factor, missing addend, set, sharing, measurement, lattice, and intermediate methods to represent and solve arithmetic problems.
 7. Identify and apply strategies such as equal additions, compensation, special factors, and the distributive property to more easily solve arithmetic operations mentally.
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Topics Covered:

- Problem Solving
 - Sets, Whole Numbers, and Numeration
 - Whole Numbers: Operations and Properties
 - Whole Number Computation – Mental, Electronic and Written
 - Number Theory
 - Fractions
 - Decimals, Ratio, Proportion, Percent
 - Integers
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Information for Students

- Expectations of Students
 - [Civility Statement](#)
 - [Student Responsibility Statement](#)
 - [Academic Integrity Statement](#)

- [Accessibility Services](#)

Students who require accommodations to complete the requirements and expectations of this course because of a disability must make their accommodation requests to the Accessibility Services Coordinator.

- [Get Help: JCC & Community Resources](#)
- [Emergency Closing Procedures](#)

- Course grade is determined by the instructor based on a combination of factors, including but not limited to, homework, quizzes, exams, projects, and participation. Final course grade can be translated into a grade point value according to the following:

A=4.0	B+=3.5	B=3	C+=2.5	C=2	D+=1.5	D=1	F=0
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- Veterans and active duty military personnel with special circumstances (e.g., upcoming deployments, drill requirements, VA appointments) are welcome and encouraged to communicate these to the instructor.
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Effective Date: Fall 2021