Mathematics for Elementary Teachers I

MATH 277 Mathematics for Elementary Teachers I (3 semester credits)

Course Description: This course is a mathematics methods course for prospective elementary school teachers and paraprofessionals. Topics include problem-solving, numeration systems, real numbers, and elementary number theory. Calculators, computers and manipulatives are used in the course.

Prerequisite(s): MATH 103 or instructor approval

Harmony Richman **Email**: harmony.richman@vcsu.edu **Phone**: 701- 845-7685 **Office Location**: Rhodes 104E **Course Website**: **Textbook**: *Mathematics for Elementary Teachers: A Conceptual Approach* with Manipulative Kit. Bennett, A.B. and Nelson, L. T., McGraw-Hill ISBN: 9780073519579	**Class Schedule:**	
	Monday	
	Tuesday	
	Wednesday	3:30P – 5:15P
	Thursday	
	Friday	
	Office Hours:	

Course Requirements: Students are expected to:

- Participate regularly in class.
- Submit graded work by dates posted on the course calendar.
- Read assigned textbook chapters.
- Do ungraded, independent practice exercises.
- Submit assigned textbook problems as pdf or jpeg files.
- Use manipulatives to complete online math activities.
- Complete graded assignments weekly.
- Share your reflections on teaching mathematics using national standards.
- Report on experiences working with children in elementary school.

Course Objectives/Student Outcomes: The students will be able to:

- Demonstrate an understanding of the mathematical concepts taught at the elementary level.

- Communication to others an understanding of elementary – level mathematics by writing reflections on methods of teaching and by explaining strategies and steps used in problem-solving.
- Use manipulatives and models to demonstrate and explain the mathematical processes used in problem-solving.
- Utilize many distinct problem solving strategies.
- Demonstrate an understanding of developmental processes in learning mathematics through the selection of age-appropriate strategies.

Relationship to Campus Theme: This course is a core requirement of the Paraeducation Program, a program that requires knowledge of human nature and learning, utilization of computer equipment and other media to create lessons and deliver instruction, and understanding of the role of paraprofessionals in education.

Grading Criteria: Your final grade is determined by dividing total points earned by total points possible. Points will be awarded for math activities, selected textbook exercises, online math assignments, reflections, and written reports. No tests will be given.

Grades will be calculated using the following criteria:

A	90% - 100%	B	80% - 89%
C	70% - 79%	D	60% - 69%
F	≤ 59%		

Schedule (subject to change):

Week	Topic	Homework
Week 1	1.1 Problem Solving Strategies	Exercises & Problems 1.1: 4, 6, 12, 16, 18, 26, 30
Week 2	1.3 Algebra & Problem Solving	Exercises & Problems 1.3: 2, 6, 8, 10, 16, 20, 24
Week 3	3.1 Numeration Systems	Exercises & Problems 3.1: 8, 10, 12, 14, 20, 30, 32
Week 4	3.2 Addition & Subtraction	Exercises & Problem 3.2 4, 6, 10, 14, 16, 20, 22
Week 5	3.3 Multiplication	Exercises & Problem 3.3 6, 8, 10, 12, 14, 38, 40
Week 6	3.4 Division & Exponents	Exercises & Problem 3.4 2, 4, 6, 10, 12, 14, 38, 40
Week 7	4.1 Factors & Multiples Project 1 – Report	Exercises & Problems 4.1 8, 10, 14, 18, 20, 30, 32
Week 8	4.2 GCF and LCM	Exercises & Problems 4.2 2, 4, 8, 10, 12, 14, 18

Week 9	5.1 Integers	Exercises & Problem 5.1 6, 8, 10, 12, 14, 18
Week 10	5.2 Introduction to Fractions	Exercises & Problem 5.2 4, 6, 8, 10, 16, 18, 30
Week 11	5.3 Operations with Fractions	Exercises & Problems 5.3 6, 8, 10, 12, 18, 42, 46
Week 12	6.1 Decimals & Rational Numbers	Exercises & Problems 6.1 12, 14, 16, 18, 28, 32, 38
Week 13	6.2 Operations with Decimals Project 2 – Report	Exercises & Problem 6.2 4, 8, 14, 16, 30
Week 14	6.3 Ratio, Percent, Scientific Notation	Exercises & Problem 6.3 2, 6, 8, 12, 24, 26, 32
Week 15	6.4 Irrational & Real Numbers	Exercises & Problems 6.4 2, 4, 6, 8, 10, 22, 26

Academic Integrity: The academic community is operated on the basis of honesty, integrity and fair play. It is the expectation that all students, as members of the college community, adhere to the highest levels of academic integrity. This means that:

- Students are responsible for submitting their own work. Student work must not be plagiarized.
- Students must not work together on graded assignments without authorization from the instructor or get help from people, technological resources, textbooks, notes, etc. on examinations.

Violations of academic principles such as cheating, plagiarism or other academic improprieties will be handled using the guidelines outlined in the student handbook on pages 18, 19, and 37.

Disabilities and Special Needs: If you have a disability for which you need accommodation, contact the Learning Center to request disability support services: phone 701-228-5477 or toll-free 1-888-918-5623.