Mathematics for Elementary Teachers II

MATH 278 Mathematics for Elementary Teachers II (2 semester credits)

Course Description: This course is designed to broaden, strengthen, and apply geometry concepts in the elementary classroom. Mathematical content includes sets, functions, and reasoning; geometric figures; measurement; and motions in geometry.

Prerequisite(s): MATH 277 Mathematics for Elementary Teachers I

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Course Website:

Textbook:
Mathematics for Elementary Teachers: A Conceptual Approach with Manipulative Kit.
Bennett, A.B. and Nelson, L. T., McGraw-Hill
ISBN: 9780073519579

Office Hours:
Virtual hours by appointment.

Other Materials:

- ✓ Mire plexi-glass tool
- ✓ Compass and straight-edge
- ✓ Pattern blocks
- ✓ *Sir Cumference Math Series* Literature books. CHOOSE 2
    1. Sir Cumference and the Sword and the Cone ISBN: 9781570916014
    2. Sir Cumference and the Great Knight of Angleland ISBN: 9780756917524
    3. Sir Cumference and the First Round Table ISBN: 9781570911521
    4. Sir Cumference and the Dragon of Pi ISBN: 9781570911644

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.
- Complete weekly quizzes. All quizzes will be completed online. Each quiz has a set time limit. Once a quiz is opened, it must be completed. It is up to the student to be sure they are ready to take the quiz before entering it.

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 develops mathematical skills that are used to teach mathematical concepts to students in the elementary/middle school classroom with the use of technology.

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, quizzes, 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%		

Course Outline: The course will follow the same format each week.

Assignments	Open	Closed
Written Assignments	Monday – 12:00 am	Sunday – 10:00 pm
Quizzes	Thursday – 12:00 am	Sunday 10:00 pm
Projects	Monday – 12:00 am	Sunday – 10:00 pm

Schedule (subject to change):

Week	Topic
Week 1	2.1 Sets and Venn Diagrams
Week 2	2.2 Functions, Coordinates, and Graphs
Week 3	2.3 Introduction to Deductive Reasoning
Week 4	9.1 Plane Figures
Week 5	9.2 Polygons and Tessellations
Week 6	9.3 Space Figures
Week 7	9.4 Symmetric Figures
Week 8	Teaching Reading in Mathematics

Week 9	10.1 Systems of Measurements
Week 10	SPRING BREAK
Week 11	10.2 Area and Perimeter
Week 12	10.3 Volume and Surface Area
Week 13	Sir Cumference Series
Week 14	11.1 Congruence and Constructions
Week 15	11.2 Congruence and Mappings
Week 16	11.3 Similarity Mappings
Finals Week	Final Project and Course Evaluation

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.