

Syllabus: Course Policies and Procedures

Contact Information

Instructor:

Office:

Email:

Phone:

Office Hours:

Course Information

Course: Mathematics for Elementary Teachers II

Course Number: MATH128-XX

Semester:

Classroom:

Day and Time:

Course Description

This course provides a conceptually based, comprehensive study of the mathematical content of geometry, measurement, probability, and statistics at the deep level required for successful elementary school teaching. Topics are examined in ways that are meaningful to pre-service elementary teachers. Topics include: two- and three-dimensional Geometry, measurement, data analysis, single variable statistics, probability. Prerequisite: MATH127 Mathematics for Elementary Teachers I.

Required Text and Materials

1. Mathematics for Elementary Teachers, Bennett, Burton, & Nelson, 10th edition. ISBN 978-0-07-351957-9 With Manipulative Kit. McGraw-Hill publisher.

Course Topics

- Chapter 10
 - Systems of Measurement
 - English System
 - Metric System
 - Area and Perimeter
 - Volume and Surface Area
- Chapter 1
 - Problem Solving
 - Introduction to Problem Solving
 - Pattern and Problem Solving
 - Problem Solving With Algebra
- Chapter 9

- Mathematical Systems
- Plane Figures
- Polygons
- Space Figures
- Chapter 7
 - Measures of Central Tendency
 - Charts and Graphs
 - Measures of Relative Standing
- Chapter 8
 - Probability
 - Events
 - Permutations and Combinations

Teaching Procedures

Each class will begin with a discussion of previously assigned homework problems. New material will be introduced using a variety of methods: lecture, discussion, activities, and use of the Manipulative Kit.

Instructional Objectives/Student Learning Outcomes

COURSE OUTCOMES	OUTCOMES ACTIVITIES
At the end of this course, students will be able to	
Understanding and applying concepts of measurement:	1. Estimating and calculating measurements using customary, metric, and nonstandard units of measurement. (CT, QS, R, TS) 2. Using unit conversions and dimensional analysis to solve measurement problems. (CT, QS, R, TS) 3. Deriving and use formulas for calculating the lengths, perimeters, areas, volumes, and surface areas of geometric shapes and figures. (CT, QS, R, TS) 4. Determining how the characteristics (e.g., area, volume) of geometric figures and shapes are affected by changes in their dimensions. (CT, QS, R, TS) 5. Solving a variety of measurement problems (e.g., time, temperature, rates, average rates of change) in real-world situations. (CT, QS, R, TS)
Understanding and applying concepts of geometry:	1. Classifying and analyzing polygons using attributes of sides and angles, including real-world applications. (CT, QS, R, TS) 2. Classifying and analyzing three-dimensional figures using attributes of faces, edges, and vertices. (CT, QS, R, TS)

	- Analyzing and applying geometric transformations (e.g., translations, rotations, reflections, dilations); relate them to concepts of symmetry, similarity, and congruence; and using these concepts to solve problems. (CT, QS, R, TS) - Matching three-dimensional figures and their two-dimensional representations (e.g., nets, projections, perspective drawings). (CT, QS, R, TS) - Recognizing and applying connections between algebra and geometry (e.g., the use of coordinate systems, the Pythagorean theorem). (CT, QS, R, TS)
Understanding descriptive statistics:	- Using measures of central tendency (e.g., mean, median, mode) and range to describe and interpret real-world data. (CT, QS, R, TS) - Selecting appropriate ways to present data and communicate statistical information (e.g., tables, graphs, line plots, Venn Diagrams). (CT, QS, R, TS) - Analyzing and interpret various graphic and nongraphic data representations (e.g., frequency distributions, percentiles). (CT, QS, R, TS) - Comparing different data sets. (CT, QS, R, TS)
Understanding and applying basic concepts of probability:	- Calculating the probabilities of simple and compound events and of independent and dependent events. (CT, QS, R, TS) - Recognizing and apply the concept of conditional probability. (CT, QS, R, TS) - Recognizing the difference between experimentally and theoretically determined probabilities in real-world situations. (CT, QS, R, TS) - Applying knowledge of combinations and permutations to the computation of probabilities. (CT, QS, R, TS)
COURSE OUTCOMES	OUTCOMES ACTIVITIES
At the end of this course, students will be able to	
Understanding and applying concepts of measurement:	- Estimating and calculating measurements using customary, metric, and nonstandard units of measurement. (CT, QS, R, TS) - Using unit conversions and dimensional analysis to solve measurement problems. (CT, QS, R, TS) - Deriving and use formulas for calculating the lengths, perimeters, areas, volumes, and surface areas of geometric shapes and figures. (CT, QS, R, TS) - Determining how the characteristics (e.g., area, volume) of geometric figures and shapes are affected by changes in their dimensions. (CT, QS, R, TS)

	10. Solving a variety of measurement problems (e.g., time, temperature, rates, average rates of change) in real-world situations. (CT, QS, R, TS)
Understanding and applying concepts of geometry:	6. Classifying and analyzing polygons using attributes of sides and angles, including real-world applications. (CT, QS, R, TS) 7. Classifying and analyzing three-dimensional figures using attributes of faces, edges, and vertices. (CT, QS, R, TS) 8. Analyzing and applying geometric transformations (e.g., translations, rotations, reflections, dilations); relate them to concepts of symmetry, similarity, and congruence; and using these concepts to solve problems. (CT, QS, R, TS) 9. Matching three-dimensional figures and their two-dimensional representations (e.g., nets, projections, perspective drawings). (CT, QS, R, TS) 10. Recognizing and applying connections between algebra and geometry (e.g., the use of coordinate systems, the Pythagorean theorem). (CT, QS, R, TS)

**Indicate the Core Competencies that apply to the outcomes activities and assessment tools: Critical Thinking (CT); technology skills (TS); oral communications (OC); quantitative skills (QS); reading (R); writing (W).

Basis for Student Grading

Grades for this course will be assigned as follows:

Grade	Average
A	93%-100%
A-	90%-92%
B+	87%-89%
B	83%-86%
B-	80%-82%
C+	77%-79%

Grade	Average
C	73%-76%
C-	70%-72%
D+	67%-69%
D	63%-66%
D-	60%-62%
F	0-59%

The grade you earn is the grade you will receive in this course. Grades are not negotiable. You will not be allowed to make up work, substitute alternative assignments, or submit extra assignments in order to improve your grade during the semester or after the semester ends.

Grades of incomplete are given only in situations when extenuating circumstances prevent a student from taking the final exam or fulfilling a specific requirement in the course. The grade of "I" cannot be used to give students additional time to complete course assignments in order to raise their grade.

Basis for Evaluating Student Performance

The grade for this course will be weighted based on the following categories:

- *Exams (70%)*: There will be four exams given during the semester, each worth 17.5% of your final grade.
- *Final Exam (20%)*: There will be a cumulative final exam given worth 20% of your final grade.
- *Class Participation and Discussion (10%)*: There is a related Math Activity with each section of chapters involving manipulative and/or discussion. A record of your participation will be recorded with attendance.

There is no extra credit available in this course.

Tentative Test Schedule/Assignment(s) Schedule

Assignment:	Tentative Date:
Test 1	
Test 2	
Test 3	
Test 4	
Final Exam	

Attendance Policy

Attendance will be taken each class. The student is expected to attend all classes. If the student misses a class, it is the student's responsibility to complete missed assignments.

Accommodations Statement

The Office of Access & Disability Resources (ADR) is committed to ensuring that students with disabilities have equal, effective, and meaningful access to all academic programs, community events, goods, and services provided by the College in compliance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act. Students with disabilities interested in establishing eligibility for services and/or academic accommodations will need to voluntarily disclose their disability to ADR, submit qualifying documentation and complete an ADR Intake meeting. During the meeting reasonable and appropriate academic accommodations will be determined. Visit the [Office of Access and Disability Services website](#) for more information and to begin the process to establish eligibility.

ADR uses a platform called Accommodate to manage the accommodation process. To make an initial accommodation request, please [submit a request through Accommodate to ADR](#).

Returning students with accommodations previously approved can request updated Accommodation Letters by accessing the ADR card in the MyMassasoit student portal. Log into Accommodate and click on Semester Request.

Students are expected to check in with faculty regarding approved accommodations. Communication between students, faculty, and ADR is key to successful accommodation implementation.

Students can contact ADR at 508-588-9100 x1807 or by email at adr@massasoit.mass.edu.