

**DELAWARE TECHNICAL & COMMUNITY COLLEGE**  
**COLLEGEWIDE COURSE SYLLABUS**

<b>Campus:</b>	Stanton	
<b>Department:</b>	Mathematics/Physics	
<b>Course Number and Title:</b>	MAT 202 – Mathematics for Teachers II	
<b>Instructor Name:</b>	<b>Telephone:</b>	<b>E-mail:</b>
<b>Prerequisites:</b>	MAT 201	
<b>Corequisites:</b>	None	
<b>Course Hours and Credits:</b>	4:0:4	
<b>Course Description:</b>	This course is a continuation of MAT 201. Topics include areas and volumes of geometric figures, geometric constructions, measurement, introductory probability, and statistics.	
<b>Materials:</b>	Each student is required to have an electronic calculator capable of scientific calculations. Calculators with QWERTY keyboards are inappropriate for this course and will not be permitted in test situations.	
<b>Methods of Instruction:</b>	Lecture or Online	
<b>Manuals:</b>	None	

## CORE COURSE PERFORMANCE OBJECTIVES

The student will be able to:

1. Calculate areas and volumes of geometric figures. (CCC 7)
2. Construct geometric figures. (CCC 2, 6, 7)
3. Perform conversions involving metric and English measurements. (CCC 7)
4. Compute basic probabilities. (CCC 7, 9)
5. Compute, analyze and interpret statistical data. (CCC 2, 6, 7)

## MEASURABLE PERFORMANCE OBJECTIVES

- 1. Calculate areas and volumes of geometric figures. (CCC 7)**
  - 1.1 Use circumference and perimeter formulae and their applications.
  - 1.2 Use area formulae for circles and polygons.
  - 1.3 Solve problems using the Pythagorean Theorem and right angle triangles.
  - 1.4 Compute volumes using appropriate formulae.
- 2. Construct geometric figures. (CCC 2, 6, 7)**
  - 2.1 Observe and understand the relationships between proportions and elements of mathematical design in art, music, and science.
  - 2.2 Use translations, rotations, and reflections in geometry.
  - 2.3 Recognize and extend patterns and sequences using geometric shapes.
  - 2.4 Understand concepts of angular measure and congruency.
- 3. Perform conversions involving metric and English measurements. (CCC 7)**
  - 3.1 Measure and estimate within standard and nonstandard measurement systems.
  - 3.2 Measure and compute within the English and metric systems.
  - 3.3 Convert between different systems of measurement.
  - 3.4 Convert between Celsius and Fahrenheit scales.
- 4. Compute basic probabilities. (CCC 7, 9)**
  - 4.1 Compute probabilities using sample spaces and tree diagrams.
  - 4.2 Apply probability rules to the design of manipulatives and learning models.
  - 4.3 Apply factorials in the solution of probability problems.
  - 4.4 Solve problems of order using formulae for combinations and permutations.
- 5. Compute, analyze and interpret statistical data. (CCC 2, 6, 7)**
  - 5.1 Organize data into a variety of charts and graphs.
  - 5.2 Select a process for gathering information through a well-defined survey.
  - 5.3 Compute measures of central tendency and dispersion.
  - 5.4 Apply statistics to elementary school settings and test results.

- 5.5 Understand the concept of normal distribution and applications to problem solving situations.
- 5.6 Use a computer to produce a variety of charts and graphs.

### **EVALUATION CRITERIA**

Students will demonstrate proficiency on all Measurable Performance Objectives at least to the 75% level. The grade will be determined using the College Grading System:

92 – 100	A
83 – 91	B
75 – 82	C
0 – 74	R

**Students should refer to the Student Handbook for information on Academic Standing Policy, Academic Honesty Policy, Students Rights and Responsibilities and other policies relevant to their academic progress.**