



Course Number and Title: MAT 213 Math for Teachers III

Campus Location:

Georgetown, Dover, Wilmington

Effective Date:

2018-51

Prerequisite:

MAT 212

Co-Requisites:

None

Course Credits and Hours:

4.00 credits

4.00 lecture hours/week

0.00 lab hours/week

Course Description:

This course is designed for prospective early childhood or elementary teachers. Topics include geometry, trigonometry, consumer mathematics, and an introduction to calculus.

Required Text(s):

Obtain current textbook information by viewing the [campus bookstore - https://www.dtcc.edu/bookstores](https://www.dtcc.edu/bookstores) online or visit a campus bookstore. Check your course schedule for the course number and section.

Additional Materials:

Scientific calculator

Schedule Type:

Classroom Course

Disclaimer:

None

Core Course Performance Objectives (CCPOs):

1. Use geometric concepts to solve application problems. (CCC 2, 6)
2. Solve application problems using right triangle trigonometry. (CCC 2, 6)
3. Apply basic calculus concepts to mathematical problem solving. (CCC 2, 6)
4. Apply mathematics of finance to consumer issues. (CCC 2, 6)

See Core Curriculum Competencies and Program Graduate Competencies at the end of the syllabus. CCPOs are linked to every competency they develop.

Measurable Performance Objectives (MPOs):

Upon completion of this course, the student will:

1. Use geometric concepts to solve application problems.
 1. Describe a point, line, and plane.
 2. Sketch points, lines, line segments, rays, and angles.
 3. Construct and copy basic geometric figures using a compass and protractor.
 4. Measure angles with a protractor and classify them as acute, obtuse, or straight.
 5. Classify triangles as right, isosceles, and equilateral.
 6. Apply the Pythagorean theorem to solve applied problems.
 7. Perform conversions within and between the English and metric systems.
 8. Calculate perimeter and circumference of various two dimensional figures.
 9. Calculate areas of various two dimensional figures.
 10. Calculate surface area of various three-dimensional figures, including but not limited to cylinders, cones, and prisms.
 11. Calculate volumes of cylinders, cones, pyramids, prisms, and spheres.
2. Solve application problems using right triangle trigonometry.
 1. Calculate the sine, cosine, and tangent given the side lengths of a right triangle.
 2. Calculate the angle measure using the inverse sine, cosine, and tangent functions.
 3. Apply trigonometric functions to solve for unknown measures of a triangle.
3. Apply basic calculus concepts to mathematical problem solving.
 1. Determine areas of geometrical figures.
 2. Interpret the concept of the derivative and the definite integral.
 3. Apply basic rules of differentiation to problem solving.
4. Apply mathematics of finance to consumer issues.
 1. Determine the appropriate application of simple and compound interest.
 2. Solve problems for present and future value involving simple and compound interest.
 3. Solve problems involving consumer credit.

Evaluation Criteria/Policies:

Students must demonstrate proficiency on all CCPOs at a minimal 75 percent level to successfully complete the course. The grade will be determined using the Delaware Tech grading system:

92	-	100	=	A
83	-	91	=	B
75	-	82	=	C
0	-	74	=	F

Students should refer to the [Student Handbook - https://www.dtcc.edu/handbook](https://www.dtcc.edu/handbook) for information on the Academic Standing Policy, the Academic Integrity Policy, Student Rights and Responsibilities, and other policies relevant to their academic progress.

Core Curriculum Competencies (CCCs are the competencies every graduate will develop):

1. Apply clear and effective communication skills.
2. Use critical thinking to solve problems.
3. Collaborate to achieve a common goal.
4. Demonstrate professional and ethical conduct.
5. Use information literacy for effective vocational and/or academic research.
6. Apply quantitative reasoning and/or scientific inquiry to solve practical problems.

Program Graduate Competencies (PGCs are the competencies every graduate will develop specific to his or her major):

None

Disabilities Support Statement:

The College is committed to providing reasonable accommodations for students with disabilities. Students are encouraged to schedule an appointment with the campus Disabilities Support Counselor to request an accommodation needed due to a disability. A listing of campus Disabilities Support Counselors and contact information can be found at the [disabilities services - https://www.dtcc.edu/disabilitysupport](https://www.dtcc.edu/disabilitysupport) web page or visit the campus Advising Center.