



Course Number and Title: MAT 120 Contemporary Mathematics

Campus Location:

Georgetown, Dover, Stanton, Wilmington

Effective Date:

2018-51

Prerequisite:

MAT 010, SSC 100 or concurrent

Co-Requisites:

None

Course Credits and Hours:

3.00 credits

3.00 lecture hours/week

0.00 lab hours/week

Course Description:

This course reviews and applies set theory, ratios and proportions, percentages, consumer mathematics, basic algebraic principles, and introductory statistical concepts.

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

Hybrid Course

Online Course

Disclaimer:

None

Core Course Performance Objectives (CCPOs):

1. Solve application problems involving real numbers. (CCC 6)
2. Solve application problems using basic algebraic principles. (CCC 2, 6)
3. Apply ratios, proportions, percentages, and simple and compound interest formulas to solve consumer mathematics problems. (CCC 2, 6)
4. Calculate conversions within and between the English and metric systems of measure. (CCC 6)
5. Apply introductory statistical concepts to solve application problems. (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. Solve application problems involving real numbers.
 1. Use fractions to solve application problems.
 2. Use decimals to solve application problems.
 3. Use signed numbers to solve application problems.
 4. Use set theory to solve problems.
 5. Use Venn diagrams to solve application problems.
 6. Solve application problems using the perimeter, area, circumference, and volume of basic geometric figures.
2. Solve application problems using basic algebraic principles.
 1. Translate word phrases into mathematical expressions.
 2. Solve linear equations in one variable.
 3. Solve linear inequalities in one variable.
 4. Formulate and solve algebraic equations and inequalities from application problems.
3. Apply ratios, proportions, percentages, and simple and compound interest formulas to solve consumer mathematics problems.
 1. Use ratios and proportions to solve application problems.
 2. Use percentages to solve consumer mathematics problems.
 3. Use the simple interest formula to calculate interest, principle, rate, or time.
 4. Calculate the future value, compound interest, or principal using the formula provided.
4. Calculate conversions within and between the English and metric systems of measure.
 1. Identify terminology associated with the metric system.
 2. Convert units of length, mass, and volume within and between the English and metric systems.
 3. Convert units of temperature between Fahrenheit and Celsius.
5. Apply introductory statistical concepts to solve application problems.
 1. Compute the probability that an event A will occur, and given the probability of A, compute the probability of not A.
 2. Apply the fundamental counting principle.
 3. Calculate the mean, median, and mode.
 4. Calculate the range and standard deviation.
 5. Interpret the percentile rank of a data value.
 6. Interpret and create various types of bar graphs, line graphs, pictograms, circle/pie graphs, frequency distributions, histograms, and box plots.
 7. Use a frequency distribution to calculate the weighted mean.
 8. Use the empirical rule to find percentages of the distribution that satisfy a condition.
 9. Calculate and interpret z-scores for a set of data.

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.