Course Number and Title: NCS 010 Review of Pre-Algebra

Campus Location:
Georgetown, Dover, Stanton, Wilmington

Effective Date:
2018-51

Prerequisite:
MAT 005, SSC 100 or concurrent

Co-Requisites:
None

Course Credits and Hours:
1.00 credits
1.00 lecture hours/week
0.00 lab hours/week

Course Description:
This accelerated course is a review of integers, fractions, decimals, ratios and proportions, percentages, measurement, and an introduction to algebra that includes solving linear equations and inequalities.

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

Additional Materials:
Basic calculator

Schedule Type:
Classroom Course

Disclaimer:
None

Core Course Performance Objectives (CCPOs):

1. Perform arithmetic operations, and apply the order of operations to simplify mathematical expressions involving integers. (CCC 6)
2. Perform arithmetic operations, and solve applied problems using fractions and mixed numbers. (CCC 2, 6)
3. Perform arithmetic operations, and solve applied problems using decimals. (CCC 2, 6)
4. Manipulate algebraic expressions, and solve simple linear equations. (CCC 6)
5. Solve applied problems using rates, ratios, and proportions. (CCC 2, 6)
6. Solve application problems involving percentages. (CCC 2, 6)
7. Calculate conversions using dimensional analysis between and within the United States (U.S.) customary system and the metric system. (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. Perform arithmetic operations, and apply the order of operations to simplify mathematical expressions involving integers.
    1. Use inequality symbols to compare integers.
    2. Determine the opposite of an integer.
    3. Determine the absolute value of an integer.
    4. Add, subtract, multiply, and divide integers.
    5. Evaluate exponential expressions involving integers.
    6. Use the order of operations to simplify expressions containing integers.
2. Perform arithmetic operations, and solve applied problems using fractions and mixed numbers.
    1. Determine the prime factorization of composite numbers.
    2. Calculate the least common multiple of two or more numbers.
    3. Calculate the greatest common factor of two or more numbers.
    4. Convert between mixed numbers and improper fractions.
    5. Determine whether fractions are equivalent.
    6. Reduce fractions and mixed numbers to lowest terms.
    7. Determine equivalent forms of fractions.
    8. Order fractions and mixed numbers from least to greatest.
    9. Add, subtract, multiply, and divide fractions and mixed numbers.
    10. Evaluate exponential expressions involving fractions.
    11. Use order of operations to evaluate expressions involving fractions and mixed numbers.
    12. Solve application problems involving fractions and mixed numbers.
3. Perform arithmetic operations, and solve applied problems using decimals.
    1. Read and write decimal numbers.
    2. Use inequality symbols to compare decimal numbers.
    3. Arrange decimal numbers from least to greatest.
    4. Round decimal numbers to a specified place value.
    5. Convert between fractional and decimal notation.
    6. Add, subtract, multiply, and divide decimal numbers.
    7. Evaluate exponential expressions involving decimals.
    8. Use order of operations to evaluate expressions with decimal numbers.
    9. Solve applications problems involving decimals.
4. Manipulate algebraic expressions, and solve simple linear equations.
    1. Evaluate algebraic expressions for given values.
    2. Translate phrases to algebraic expressions.
    3. Simplify algebraic expressions using order of operations.
    4. Solve linear equations with one unknown.
5. Solve applied problems using rates, ratios, and proportions.
    1. Express ratios and rates in reduced fractional form.
    2. Express a given rate as a unit rate.
    3. Determine whether two ratios or rates are equivalent.
    4. Solve for the unknown value in a proportion.
    5. Use proportions to solve application problems.
6. Solve application problems involving percentages.
    1. Convert between fractions, decimals, and percentages.
    2. Solve percent problems using a percent equation.
    3. Solve percent problems using a percent proportion.
7. Calculate conversions using dimensional analysis between and within the United States (U.S.) customary system and the metric system.
    1. Determine appropriate metric (SI) units.
    2. Convert from one metric (SI) unit of measurement to another: length, capacity, and mass.
    3. Convert from one U.S. customary unit of measurement to another: length, capacity, weight, and time.
    4. Convert between U.S. customary and metric (SI) units.
    5. Convert measurements of temperature between Fahrenheit and Celsius units.

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 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 web page or visit the campus Advising Center.