DELAWARE TECHNICAL & COMMUNITY COLLEGE
COLLEGEWIDE COURSE SYLLABUS

Campus:	Terry
Department:	Mathematics
Course Number and Title:	MAT 130 -- Algebra for Allied Health
Instructor Name:	**Telephone:** **E-mail:**
Prerequisites:	MAT 012 or required math score on College Placement Test.
Corequisites:	None
Course Hours and Credits:	4:0:4
Course Description:	This course presents linear equations, quadratics, graphing, properties of exponents and logarithms, basic statistics, metrics, and right triangle trigonometric functions.
Required Text:	Angel, A.R.; Abbott, C.D. and Runde, D.C. (2004). A Survey of Mathematics with Applications, (7^{th} ed.) Boston, MA: Addison Wesley Longman, Inc.
Materials:	Graphing calculator Graph paper Ruler/straight edge
Method of Instruction:	Lecture
Manuals:	None
Disclaimer:	None

CORE COURSE PERFORMANCE OBJECTIVES

The student will be able to:

1. Calculate conversions between the English and metric systems of measure. (CCC 3, 7, 9)
2. Calculate rates, ratios and proportions and use these to solve applied problems. (CCC 2,7)
3. Graph functions and solve linear equations. (CCC 2, 6, 7)
4. Graph quadratic functions and solve quadratic equations. (CCC 2, 6, 7)
5. Solve application problems involving exponential and logarithmic functions. (CCC 2,7)
6. Compute, analyze and interpret statistical data. (CCC 2, 6, 7)
7. Solve applications involving right triangle trigonometry. (CCC 2,7)

MEASURABLE PERFORMANCE OBJECTIVES

1. Calculate conversions between the English and metric systems of measure. (CCC 3, 7, 9)

1.1 Identify terminology associated with the Metric System.

1.2 Convert units of length, area and volume from metric to English and English to metric.

1.3 Convert units of mass and temperature from metric to English and English to metric.

1.4 Convert dimensional units from metric to English and English to metric.

2. **Calculate rates, ratios and proportions and use these to solve applied problems. (CCC 2,7)**

2.1 Solve applications related to the allied health profession with the use of ratio and/or proportions.

3. **Graph functions and solve linear equations. (CCC 2, 6, 7)**

3.1. Evaluate a polynomial using order of operations.

3.2. Solve a linear equation in one variable.

3.3. Solve a formula for a specific variable.

3.4 Solve applications of linear equations in one variable.

3.5 Solve applications in variation.

3.6 Solve a linear inequality in one variable.

3.7 Graph a linear equation in two variables.

3.8 Graph a linear inequality in two variables.

4. **Graph quadratic functions and solve quadratic equations.(CCC 2, 6, 7)**

4.1. Solve quadratic equations by factoring and the quadratic formula.

4.2. Graph a quadratic equations.

4.3 Define and use functional notation.

5. **Solve application problems involving exponential and logarithmic functions. (CCC 2,7)**

5.1 Graph an inverse of a function.

5.2. Graph exponential curves and inverse exponential curves.

5.3. Find the natural and common logarithm of a number.

5.4. Graph a logarithmic function.

5.5. Solve exponential and logarithmic equations.

5.6. Solve applications involving exponential or logarithmic equations.

6. **Compute, analyze and interpret statistical data. (CCC 2, 6, 7)**

6.1. Construct a frequency distribution and statistical graphs including pie graphs, histograms, frequency polygons and stem and leaf displays of a set of data.

6.2. Find and interpret measures of central tendency including the mean, median, mode of a set of data.

6.3. Find and interpret measures of dispersion including the range and standard deviation of a set of data.

6.4 Draw a normal curve and use it to interpret data.

6.5. Calculate and interpret Z-scores for a set of data.

7. **Solve applications involving right triangle trigonometry. (CCC 2,7)**

7.1. Define the six trigonometric functions of a right triangle.

7.2. Use a calculator to find values of trigonometric functions.

7.3. Solve applications using right triangle trigonometry.

7.4. Graph the trigonometric functions.

EVALUATION CRITERIA

Students will demonstrate proficiency on all Measurable Performance Objectives at least to the 75% level. The final 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.

Version Date 200651
7/5/05