

# COLLEGEWIDE COURSE OUTLINE OF RECORD

## MAT 131, ALGEBRA/TRIGONOMETRY I

COURSE TITLE: Algebra/Trigonometry I

COURSE NUMBER: MAT 131

PREREQUISITES: Successful completion of MAT 111 Intermediate Algebra or demonstrated competency through appropriate assessment.

DIVISION: General Education

PROGRAM: General Education

CREDIT HOURS: 3

CONTACT HOURS: Lecture: 3

DATE OF LAST REVISION: Spring, 2004

EFFECTIVE DATE OF THIS REVISION: Fall, 2004

CATALOG DESCRIPTION: Presents an in-depth study of functions, quadratic, polynomial, radical, and rational equations, radicals, complex numbers, right triangle trigonometry, oblique triangles, vectors, and graphs of sine and cosine functions. First in a series of two courses of College Algebra/Trigonometry.

MAJOR COURSE LEARNING OBJECTIVES: Upon successful completion of this course the student will be expected to:

1. Determine, evaluate, and graph functions.
2. Simplify and perform operations on complex numbers.
3. Simplify rational expressions.
4. Simplify and perform operations on radicals.
5. Solve radical equations.
6. Solve quadratic and rational equations and inequalities.
7. Solve polynomial equations and graph polynomial functions.
8. Convert between degree measure and radian measure.
9. Find trigonometric function values of any angle expressed in degree or radian measure.
10. Solve right triangles.
11. Solve oblique triangles using the laws of sine and cosine.
12. Use and apply properties of vectors.
13. Graph the sine and cosine functions.
14. Apply the concepts of ratio, proportion and combined variation.
15. Solve a variety of application problems in the above areas.
16. Use a scientific and/or graphing calculator proficiently as related to coursework.
17. Use computer technology which may include the Internet, the Web, e-mail, or computer tutorials to enhance the course objectives.

COURSE CONTENT: Topical areas of study include --

Functions	Radicals and rational expressions
Quadratic, polynomial, rational and radical equations	Graphs of polynomial functions
Variation	Complex numbers
Right and oblique triangles	Angles and trigonometric functions
Graphs of sine and cosine function	Vectors

#### ACADEMIC HONESTY STATEMENT:

The College is committed to academic integrity in all its practices. The faculty value intellectual integrity and a high standard of academic conduct. Activities that violate academic integrity undermine the quality and diminish the value of educational achievement.

Cheating on papers, tests or other academic works is a violation of College rules. No student shall engage in behavior that, in the judgment of the instructor of the class, may be construed as cheating. This may include, but is not limited to, plagiarism or other forms of academic dishonesty such as the acquisition without permission of tests or other academic materials and/or distribution of these materials and other academic work. This includes students who aid and abet as well as those who attempt such behavior.

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If you will require assistance during an emergency evacuation, notify your instructor immediately. Look for evacuation procedures posted in your classroom.