



COURSE SYLLABUS

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COURSE: MAT 271 CALCULUS I

HOURS: Lecture: 3 Lab/Shop: 2 Work Exp/Clinical: 0 Credits: 4

COURSE DESCRIPTION:

This course is designed to develop the topics of differential and integral calculus. Emphasis is placed on limits, continuity, derivatives and integrals of algebraic and transcendental functions of one variable. Upon completion, students should be able to select and use appropriate models and techniques for finding solutions to derivative-related problems with and without technology.

Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the general education requirement for mathematics in the A.S. degree program. This course has been approved to meet the mathematics requirement in A.A.S. degree programs.

PREREQUISITE(S): MAT 172 with a grade of “C” or better

COREQUISITE(S): NONE

TEXTBOOK(S) & OTHER SPECIAL REQUIREMENTS:

Open Educational Resources (OER) are listed in the course Moodle.

STUDENT LEARNING OUTCOMES:

Upon successful completion of this course, the student will be able to:

1. Apply the definition of limit to evaluate limits by multiple methods and use it to derive the definition and rules for differentiation and integration.
2. Use derivatives to analyze and graph algebraic and transcendental functions.
3. Select and apply appropriate models and differentiation techniques to solve problems involving optimization and related rates.
4. Apply the definition of indefinite integral to solve basic differential equations.
5. Apply the definition of definite integral to evaluate basic integrals.
6. Use the fundamental theorem of calculus to evaluate integrals involving algebraic and transcendental functions.

*****Please refer to the online version of the Richmond Community College Program & Course Catalog and the Student Handbook for current academic and general information.**