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Semester Effective: Fall 2025

Mathematics (Math) 0210S Support for Analytical Geometry and Calculus I (0 units) CSU

Prerequisite: None

Corequisite: Math 2100 (Analytical Geometry and Calculus I) must be taken concurrently

Advisory: None

Hours and Unit Calculations:

32 hours lecture. (64 Outside-of-class Hours); (96 Total Student Learning Hours)

Catalog Description: A non-credit co-requisite support course for Math 2100 Analytical Geometry and Calculus I. This course is intended to provide additional support for students who are concurrently enrolled in Math 2100. Emphasis will be placed on prerequisite math skills embedded in Calculus I topics, as well as study skills, appropriate use of technology, and just-in-time review and remediation. Not applicable to associate degree.

Type of Class/Course: Non-credit

Texts: This course will utilize the same textbook/access code that is being used with Math 2100.

Additional Required Materials: Calculator or any other technology/materials required in Math 2100.

Course Objectives:

By the end of the course, a successful student will:

1. Take limits of functions after learning factoring polynomials, simplifying rational expressions, working with radicals, reading graphs, tables with technology
2. Take derivatives of functions after learning simplifying polynomial and rational expressions, exponent and radical expressions, identifying parts of expressions, writing linear equations, graphs of parent functions
3. Take integrals of functions after learning simplifying polynomial and rational expressions, exponent and radical expressions, identifying parts of expressions, unit circle and trigonometric identities

Course Level Student Learning Outcome:

1. Demonstrate mathematical concepts and skills needed for evaluating limits, determining derivatives, and calculating areas under the curve
2. Develop a successful student plan utilizing TC resources

Course Scope and Content:

Course Topics

- A. Take Limits of Functions
  - a. Factoring Polynomials
  - b. Simplifying Rational Expressions
  - c. Working with Radicals
  - d. Graph Reading
  - e. Using Technology Appropriately
- B. Take Derivatives of Functions
  - a. Simplifying Polynomials
  - b. Identifying Composite Functions
  - c. Simplifying Rational Expressions
  - d. Working with Power and Radical Expressions
  - e. Identifying Parts of Expressions
  - f. Writing Linear Equations
  - g. Graphing basics for Parent Functions
  - h. Using Common Geometric Formulas
  - i. Using the Unit Circle and Trig Functions
- C. Take Integrals of Functions
  - a. Simplifying Polynomials
  - b. Identifying Composite Functions
  - c. Simplifying Rational Expressions
  - d. Working with Power and Radical Expressions
  - e. Identifying Parts of Expressions
  - f. Using the Unit Circle and Trig Identities
  - g. Using Technology Appropriately
- D. Study Skills

#### Learning Activities Required Outside of Class

The students in the class will spend a minimum of 4 hours per week outside of the regular class time doing the following:

1. Completing assigned reading from the textbook
2. Completing assigned homework problems and study activities
3. Watching instructional videos
4. Watching videos related to growth mindset and study skills
5. Review how to use technology to solve problems
6. Work on course-related topics in math lab/learning center or office hours

#### Methods of Instruction

1. Lecture and sample problems created or curated by the instructor
2. Videos that demonstrate how to utilize technology to solve select problems
3. Individual work with appropriate technology
4. Student presentations
5. Small group work

#### Methods of Evaluation

1. Student Presentations
2. Problem-solving assignments or activities
3. Quizzes

4. Project
5. Discussions
6. Written summaries
7. Time spent in Math lab, Learning Center, or using TC tutoring services

Supplemental Data:

T.O.P. Code:	170100: Mathematics, General
Sam Priority Code:	E: Non-Occupational
Funding Agency:	Y: Not Applicable(funds not used)
Distance Learning:	Yes
Program Status:	Stand alone
Noncredit Category:	C Elementary and Secondary Basic Skills
Special Class Status:	N: Course is not a special class
Basic Skills Status:	N: Course is not a basic skills course
Prior to College Level:	Y: Not applicable
Cooperative Work Experience:	N: Is not part of a cooperative work experience education program
Eligible for Credit by Exam:	No
Eligible for Pass/No Pass:	C: Pass/No Pass
Discipline:	Mathematics