

MATH 090: COREQUISITE SUPPORT FOR CALCULUS I

Citrus College Course Outline of Record

Heading	Value
Effective Term:	Fall 2024
Credits:	2
Total Contact Hours:	36
Lecture Hours :	36
Lab Hours:	0
Hours Arranged:	0
Outside of Class Hours:	72
Total Student Learning Hours:	108
Prerequisite:	Direct placement based on multiple measures.
Corequisite:	MATH 190.
Transferable to CSU:	No
Transferable to UC:	No
Grading Method:	Pass/No Pass

Catalog Course Description

Support for this course focuses on the prerequisite skills, competencies, and concepts needed for success in a Calculus with Analytic Geometry I course. This course is intended for majors in science, technology, engineering, and mathematics (STEM) who are concurrently enrolled in MATH 190, Calculus with Analytic Geometry I, at Citrus College. Students will receive extra support in topics such as algebra, analytic geometry, trigonometry, technology, and study skills. A graphing calculator is required for this course. Pass/No Pass only. Non-degree applicable. 36 lecture hours.

Course Objectives

- Use skills and knowledge from algebra, geometry, trigonometry to successfully complete Math 190 calculus problems.
- Develop problem solving skills and gain confidence working calculus problems from Math 190.
- Assess and improve mathematical competency.
- Use effective study skills.

Major Course Content

A just-in-time approach to content relevant to the Math 190 entrance skills:

1. Algebra
 - a. Domain and range
 - b. Methods for solving equations involving polynomials, logarithms, exponents, absolute value, and/or radicals
 - c. Function composition and operations with functions
 - d. Properties of exponents
2. Trigonometry
 - a. Identities and formulas
 - b. Standard angles

- c. Converting between radian and degree measure
 - d. Solving trigonometric equations
3. Analytic Geometry and Graphing
 - a. Graphs and transformations of functions commonly used in calculus
 - b. Equations of common geometric figures in the Cartesian plane
 - c. Vectors
 - d. Introduction to polar coordinates
 4. Mathematical Reasoning
 - a. Modeling using algebraic and trigonometric functions to solve real world problems
 - b. Solving problems using graphical, symbolic, numerical and verbal approaches
 5. Study Skills
 - a. Growth orientation to learning math
 - b. Use of relevant technology
 - c. Test-taking strategies
 - d. Reading and note-taking strategies

Suggested Reading Other Than Required Textbook

Students will be provided with reading assignments on topics such as affective domain and growth mindset to help students overcome self-sabotaging behaviors, such as missing class, not doing homework, and non-participation in class-room activities.

Examples of Required Writing Assignments

Students will be expected to write short self-reflection papers to help them develop meta-cognitive strategies to develop skills that will allow them to take charge of their learning of Calculus concepts, and to develop a plan of action to improve study skills to prepare for assessments in the course.

Examples of Outside Assignments

Students will be able to use differentiation to solve real-life applications such as related rate problems and optimization problems.

Instruction Type(s)

Lecture, Online Education Lecture