

**Columbus State Community College  
Mathematics Department Syllabus**

**Course and Number:** MATH 1150 – Precalculus

**Credits:** 6

**Class Hours Per Week:** 6

**Prerequisites:** By placement

**COURSE DESCRIPTION:** This is an accelerated course intended for well-prepared students going on to take calculus. Topics include polynomial and rational functions, exponential and logarithmic functions, trigonometric and inverse trigonometric functions. Such functions are graphed and analyzed; related equations and inequalities are solved. Problem solving with related applications occurs throughout. Sequences and series are introduced. This course is intended for students with strong mathematics preparation. Students should have completed four years of high school mathematics including Algebra II or above. This course is not open to students with credit for MATH 1148 or MATH 1149.

**COURSE GOALS:** To learn the essential elements of college algebra and trigonometry necessary for success in calculus and further study in mathematics and science in an accelerated one-semester format. To further promote and develop students' abilities to think and reason mathematically and become better problem solvers.

**INSTITUTIONAL LEARNING GOALS:** Critical Thinking and Quantitative Skills

**TEXTBOOK, MANUALS, REFERENCES, AND OTHER REQUIRED MATERIALS:**

- *Algebra and Trigonometry, Enhanced with Graphing Utilities*, 8<sup>th</sup> Ed, Sullivan/Sullivan, Prentice Hall
- My Math Lab/Course Compass – (included with purchase of a new text)
- The Texas Instruments' TI-84 (regular, Plus, Silver, etc.) graphing calculator is recommended.
  - *Calculator Alternatives:* Some students may prefer to use a CASIO-FX-9750GII, TI- Nspire (non-CAS version), or a TI-83. These options are similar to the TI-84 and are approved for use during proctored assessments.
  - Other graphing calculators may be permitted. If you own a different calculator, please check with your current instructor to see if your calculator will be allowed during their proctored assessments.
  - The TI-89, TI-92, TI-Nspire CAS, or other Computer Algebra System (CAS) calculators, are never allowed during proctored assessments.

**UNITS OF INSTRUCTION:**

- Functions: Graphs and Analysis (Chapters 2.1, 3.2-3.5)
- Quadratic Functions, Mathematical Models (Chapters 4.3-4.4, 3.6)
- Power, Polynomial and Rational Functions (Chapters R.6, 5.1-5.7)
- Function Operations (Chapters 3.1, 6.1-6.2)
- Exponential and Logarithmic Functions (Chapters 6.3-6.8)
- Systems of Equations (Chapters 12.1)
- Sequences (Chapters 13.1-13.3)
- Trigonometric Functions (Chapters 7.1-7.8)
- Analytic Trigonometry (Chapters 8.1-8.6)
- Applications of Trigonometry: Laws of Sines and Cosines, Vectors (Chapters 9.1-9.3, 10.4-10.5)
- Conic Sections (Chapters 2.4, 11.1-11.4)

**GENERAL INSTRUCTIONAL METHODS:** Instructional methods may include face-to-face or video lectures or demonstration, face-to-face or virtual discussion, individual or group activities including the use of visual aids, graphing calculators, computers and/or other technologies. Students may be expected to participate in these activities during class and/or outside of class. Instructors may require class participation, collaborative learning, and peer review.

**STANDARDS AND METHODS FOR EVALUATION:** The departmental midterm exam will be 15% of the course grade. The departmental final examination will be 15% of the course grade. The remainder of the course grade will be determined by the instructor. No more than 25% of the course grade may be determined using non-proctored assessments.

**GRADING SCALE:**

Letter grades for the course will be awarded using a 90% - 80% - 70% - 60% scale. Grades will not be curved, skewed, or otherwise inflated.