AP Precalculus / 2026-2027 Instructional Plan

Created on 8/4/2026

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WHAT IS AP(ADVANCED PLACEMENT)?

AP courses aim to teach students the skills and information needed to pass an end of year exam given by College Board. Any student who receives a score of three (or above) on College Board's five-point grading system typically receives college credit by most public colleges.

Moreover, regardless of exam score, many colleges and universities view participation in the AP program as a sign of a motivated student. The course is advanced not only in reading and writing, but in the depth of the material. Students taking this course will learn at an accelerated pace and must exhibit responsibility, good work ethic, and a drive to learn to achieve college readiness skills and (potential) college credit.

COURSE DESCRIPTION

AP Precalculus is a college-level mathematics course designed to prepare students for calculus and other higher-level math courses. This course emphasizes functions as models of real-world phenomena and builds deep understanding of function behavior, rates of change, and function transformations. Students will engage with a variety of function types including polynomial, rational, exponential, logarithmic, and trigonometric functions.

Through problem-solving, graphical and numerical analysis, and modeling, students will develop a strong foundation in precalculus concepts. The course also introduces polar functions and includes units on systems of equations. Emphasis is placed on reasoning, communication, and real-world applications.

COURSE ACTIVITIES

Below you will find descriptions of the most common activities that students will participate in during the course of each semester.

Throughout the year, students will be:

Modeling Real-World Situations
Students will use functions to model and solve real-life problems—such as predicting population growth, modeling projectile motion, or analyzing financial scenarios. They'll interpret graphs, build equations, and explain the meaning of their results in context.

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Exploring Functions and Their Behavior
Students will investigate different types of functions—polynomial, rational, exponential, logarithmic, trigonometric, and polar—using multiple representations:

- Graphs
- Tables
- Algebraic expressions
- Verbal descriptions

Graphing and Analyzing Functions
Using graphing technology (like Desmos or graphing calculators), students will:

- Graph functions and transformations
- Analyze domain, range, intercepts, asymptotes, and end behavior
- Compare and contrast different function types

Practicing AP-Style Questions
Throughout the year, students will practice multiple-choice and free-response questions in the style of the AP exam to build familiarity with the format and expectations.

Justifying and Communicating Reasoning
Students will learn to explain their work clearly in writing, using correct mathematical language and logical structure—an important skill for the AP exam and college math.

GRADES - Click here for → YWLA Grading Policy

Major	60%
Minor	40%

** YWLA High School Math all use homework checks as minor grades instead of homework. We believe that homework should be penalty free practice and that students should have access to immediate feedback. We make sure students have a way to check their answers as they are working out the problems. **

Each day, you will come in and take a short homework quiz that will check your understanding of the prior lesson.

Classroom Resources (examples below)

- College Board Approved Curriculum
- Google Classroom - All resources and curriculum will be posted daily
- AP Classroom

YOUNG WOMEN'S Leadership Academy

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Exam Date

Tuesday, May 11, 2027, at 8:00 AM

COURSE OBJECTIVES AND TOPICS

- **CED**
- **Unit 1 - Polynomial and Rational Functions**
  Understanding and analyzing polynomial and rational functions using multiple representations (graphical, numerical, algebraic, and verbal).
- **Unit 2 - Exponential and Logarithmic Functions**
  Developing a deep understanding of exponential and logarithmic relationships and their use in modeling real-world contexts.
- **Unit 3 - Trigonometric and Polar Functions**
  Representing periodic phenomena using trigonometric functions and exploring polar coordinate systems.
- **Unit 4 (not tested)**

Please feel free to reach out with any questions or concerns. We are excited to work together to make this a successful year of learning!

Mrs. Waters
