GHS

AP Course Offerings

2024 - 2025

12/04/24

The Basics

Advanced Placement Program® (AP®) **courses** are college-level courses offered in high school. AP courses reflect what is taught in top introductory college courses.

At the end of the courses, in May, students take **AP Exams** that measure how well they have mastered college-level course work.

Students who do well on AP Exams can earn credit and/or placement into advanced courses in college.

The Benefits of AP Courses

AP courses can be challenging, but it’s work that pays off.

- AP courses can be among the most interesting and challenging courses a student takes in high school.
- AP teachers are among the most prepared, dedicated, and inspiring teachers at their schools.
- Students develop confidence, and learn the study habits and time management skills essential for success in college.

AP Courses offered at GJSHS

- AP Language and Composition
- AP Literature and Composition
- AP Studio Art: Drawing
- AP Computer Science Principles
- AP Probability and Statistics
- AP Calculus AB
- AP Calculus BC and Lab
- AP Biology
- AP Physics I
- AP Physics II
- AP Human Geography
- AP Psychology

What are AP courses like?

AP courses typically demand more of students.

- Classes tend to be fast-paced and cover more material than typical high school classes.
- More time, inside and outside of the classroom, is required to complete lessons, assignments and homework.
- AP teachers expect their students to think critically, analyze and synthesize facts and data, weigh competing perspectives, and write clearly and persuasively.

AP Exams

- AP Exams are administered by schools worldwide on set dates each May.
- AP Art students will submit a digital portfolio instead of taking an exam.
- Exams usually last around three hours.
- Each AP Exam contains:
  - Multiple-choice questions
  - Free-response questions (essay, problem-solving, oral response)
- Students who take the AP Exam at the end of the year earn a weighted grade
- $99 per exam taken

Why take AP?

More than 3,200 colleges and universities offer credit or advanced placement for qualifying AP Exam scores.

This includes more than **90 percent** of four-year U.S. colleges and universities.

AP Language and Composition

- The curriculum focuses on reading nonfiction texts and writing essays.
- The nonfiction texts include speeches, letters, excerpts from nonfiction books, news articles, academic journal articles and academic essays.
- Students will write analysis, synthesis and argument essays. Writing is a primary focus of the class.
- AP Language also fulfills the public speaking requirement. There will be many opportunities for public speaking throughout the year.

AP Literature and Composition

- The curriculum focuses on reading, analyzing, and writing about imaginative literature from various time periods and regions.
  - **fiction** (such as “The Yellow Wallpaper,” *Frankenstein, All the Light We Cannot See*)
  - **poetry** (such as “Ozymandias,” “Theme for English B,” “Chicago”)
  - **drama** (such as *Hamlet, Rosencrantz and Guildenstern are Dead*)
- Students engage in close reading and critical analysis of the literature to deepen their understanding of the ways writers use language to provide meaning and pleasure.
- Students consider the work’s structure, style and themes, as well as figurative language, imagery, and symbolism, to form an analysis.
- Students will write expository, analytical, and argumentative essays to analyze and interpret literary works.

AP Studio Art: Drawing

About the Course

- Use the skills you've learned in past art courses and the skills you learn in this course, as well as your own ideas, to create unique works of art.
- Develop an inquiry that guides artmaking through practice, experimentation, and revision of materials, processes, and ideas while demonstrating drawing skills through
  - Drawing
  - Painting
  - Sequential art
  - Printmaking
  - Illustration
  - Animation
  - Fibers, and others

About the Portfolio

- Two sections:
  - Sustained Investigation (60% of total score)
    - 15 images of process (practice, experimentation, revision) accompanied by brief statements about the ideas, materials and processes used
    - Written evidence - respond to two prompts
  - Selected Works (40% of total score)
    - 5 images of completed works
- Portfolio components are scored separately, and each contributes to the final portfolio score, which is on a 5-point scale. A score of 3 or better earns college credit for a one semester drawing course
- Work should focus on the application of drawing skills, including mark-making, line, surface, space, light and shade, and composition.
- No preferred or unacceptable content or style.
- Drawing (analog and digital), painting, printmaking, and mixed media work are all acceptable.
- Submit a digital portfolio of artwork for evaluation

AP Computer Science Principles

AP® Computer Science Principles

CREATE

EXPLORE

INNOVATE



AP COMPUTER SCIENCE PRINCIPLES

- Curriculum is built around fundamentals of computing, and students engage with the course content by developing computational artifacts and analyzing data, information, or knowledge represented for computational use.

- Online IDE CodeHS in the Python Programming Language.
- Students will have the opportunity to test for the PCEP (Python Certified Entry Level Programing) Professional certification.
- AP Test / Create Project
- First of two courses, CSA introduces students to higher level topics such as OOP, Data Structures, and Algorithms in the Java programming language.

BIG IDEAS OF AP COMPUTER SCIENCE PRINCIPLES

1. Creative Development
2. Data
3. Algorithms and Programming
4. Computer Systems and Networks
5. Impact of Computing

COMPUTATIONAL THINKING PRACTICES

- Abstraction in Program Development
- Algorithms and Program Development
- Code Analysis
- Computational Solution Design
- Computing Innovations
- Responsible Computing

AP Probability and Statistics

AP Statistics is the equivalent of an introductory college statistics course.

** develop strategies for collecting, organizing, analyzing, and drawing conclusions from data.

** design, administer, and tabulate results from surveys and experiments.

** Probability and simulations aid students in constructing models for chance phenomena.

** Sampling distributions provide the logical structure for confidence intervals and hypothesis tests.

** To develop effective statistical communication skills, students are required to prepare frequent written and oral analyses of real data.

Class outline: 12 chapters

- chapter homework assigned daily, due dates are usually set 3-5 days out **It is imperative homework is done on time as all work is sequential
- Test every chapter set up similar to Exam (multiple choice and free response)
- 2 weeks before exam will be test prep

AP Calculus AB

- Can be taken any time after Honors Precalculus.
- Taken one period all year long.
- Calculus AB covers differential and integral calculus topics that are typically included in a college introductory calculus course.

- Determining expressions and values using mathematical procedures and rules
- Connecting representations
- Justifying reasoning and solutions
- Using correct notation, language, and mathematical conventions to communicate results or solutions

AP Calculus BC and Lab

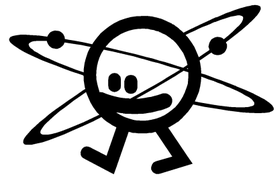
- Can be taken any time after Honors Precalculus.
- The AP Calculus BC course and Lab is 2 periods in length and worth 2 credits.
- In AP Calculus BC, you'll cover all of the mathematical principles in AP Calculus AB and build upon them. The BC course is equivalent to the typical college two-semester Calculus I and II sequence.
- AP Calculus BC helps you prepare for further study in mathematics and other disciplines, such as engineering, computer science, or economics.

AP Biology

- Can be taken any time after taking Chemistry
- Taken one period all year long
- Equivalent to college introductory biology course for biology majors.
- More rigorous and in depth than DC Biology which is equivalent to BIO 101
- Covers 8 Units
  - Biochemistry
  - Cell structure and function
  - Energy use
  - Cell Communication
  - Genetics
  - DNA
  - Evolution
  - Ecology



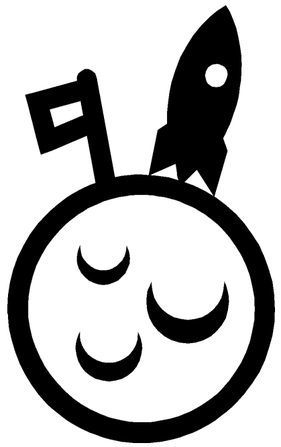
AP Physics I



AP Physics consists of two separate courses called AP Physics I and AP Physics II. These two courses are equivalent to a first year, algebra-based college physics course.

Students may choose to take only AP Physics I or they may continue and take AP Physics II the following year.

The prerequisite for AP Physics I is Algebra II.



AP Physics I topics include:
Motion, projectiles, Newton's Laws, circular motion, orbits, gravity, work and energy, momentum, torque, rotation, simple harmonic motion, fluids.

AP Physics II

Students have the option to take AP Physics II the year after they take AP Physics I. The prerequisite for AP Physics II is AP Physics I.



AP Physics II topics include:
Heat and thermodynamics, electrostatics, voltage, capacitance, circuits, magnetism, induction, optics, waves and sound, light and electromagnetic radiation, wave interference, quantum physics, and nuclear physics.









AP Human Geography

Course Overview

AP Human Geography is an introductory college-level human geography course. Students cultivate their understanding of human geography through data and geographic analyses as they explore topics like patterns and spatial organization, human impacts and interactions with their environment, and spatial processes and societal changes.



- **Unit 1:** Thinking Geographically
- **Unit 2:** Population and Migration Patterns and Processes
- **Unit 3:** Cultural Patterns and Processes
- **Unit 4:** Political Patterns and Processes
- **Unit 5:** Agriculture and Rural Land-Use Patterns and Processes
- **Unit 6:** Cities and Urban Land-Use Patterns and Processes
- **Unit 7:** Industrial and Economic Development Patterns and Processes

AP Psychology

AP Psychology is the equivalent of an introductory psychology course in college. Psychology is the study of human behavior, and students will explore human behavior through 5 units of study.

Unit 1: Biological Bases of Behavior

Unit 2: Cognition

Unit 3: Development and Learning

Unit 4: Social Psychology and Personality

Unit 5: Mental and Physical Health

