



# AP COURSES

Handbook



AP COURSE OFFERINGS &  
DESCRIPTIONS



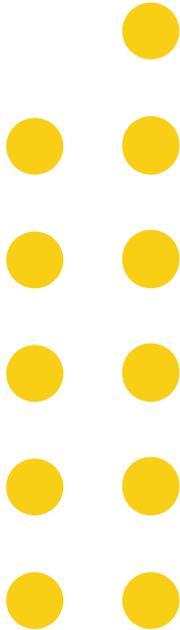
# WHY AP?

---

## WHY TAKE AN AP CLASS?

### From the College Board:

- AP Classes give you the opportunity to earn college credit or placement while you are in high school!
- Research shows that students who have taken an AP exam, have stronger college outcomes than their peers.
- Taking an AP class & exam shows colleges, universities, and scholarship programs that you are an exceptionally hard worker and willing to complete college-level work.



## WHAT IF I NEED EXTRA SUPPORT?

In addition to the support you will receive from excellent AP teachers, check out some additional resources below!

- Math & Writing Labs @SHS
- After-School Tutorial @SHS
- Learning Express Library System

## AP COORDINATOR

Mr. Rufner is Service HS's AP Coordinator. For students taking an AP Exam, if you have a question regarding AP Exam costs, please see Mr. Rufner for more information.

Phone: 907-742-8114 or Email: [rufner\\_daniel@asdk12.org](mailto:rufner_daniel@asdk12.org)

# COURSE OFFERINGS



## 9TH GRADE

- AP Human Geography
- AP Computer Science A
- AP Computer Science Principles

## 11TH-12TH GRADE

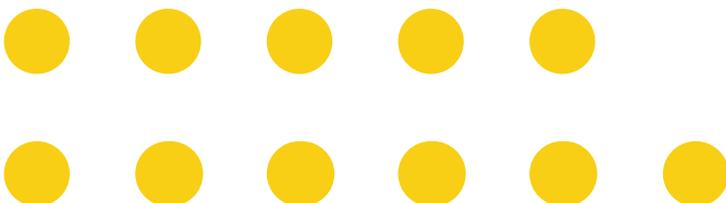
- AP US History (11th Only)
- AP Human Geography
- AP US Government & Politics
- AP Economics, Micro
- AP Economics, Macro
- AP Psychology
- AP Literature and Composition
- AP Language and Composition
- AP Calculus AB
- AP Statistics
- AP Computer Science A
- AP Computer Science Principles
- AP Chemistry
- AP Biology
- AP Environmental Science
- AP Physics 1: Algebra-Based
- AP 2-D Art & Design Portfolio
- AP Drawing Portfolio
- AP Seminar
- AP Research
- AP Spanish Language & Culture
- AP Japanese Language & Culture
- AP German Language & Culture

## 10TH GRADE

- AP World History
- AP Human Geography
- AP Psychology
- AP Calculus AB
- AP Statistics
- AP Computer Science A
- AP Computer Science Principles
- AP 2-D Art and Design Portfolio
- AP Drawing Portfolio
- AP Seminar



Scan here for more information about the College Board and AP Course Offerings



# CAPSTONE DIPLOMA



## COURSE DESCRIPTIONS

The AP Capstone Diploma Program is a two-year program based on two AP courses, AP Seminar and AP Research. Students who fulfill the requirements can earn academic awards recognized by colleges around the world.

### AP SEMINAR

Develop and practice the skills in research, collaboration, and communication that you'll need in any academic discipline. You'll investigate topics in a variety of subject areas, write research-based essays, and design and give presentations both individually and as part of a team.

#### SKILLS YOU'LL LEARN:

- Reading and analyzing articles, studies, and other texts
- Gathering and combining information from sources
- Viewing an issue from multiple perspectives
- Crafting arguments based on evidence

### AP RESEARCH

Build on what you learned in AP Seminar to deeply explore an academic topic, problem, or issue of individual interest. Through this exploration, you will design, plan, and conduct a year-long research based investigation to address a research question.

#### SKILLS YOU'LL LEARN:

- Conducting independent research
- Analyzing sources and evidence
- Applying context and perspective
- Writing a college-level academic paper
- Present research findings to an audience

**NOTE: AP RESEARCH AND SEMINAR COUNT TOWARDS ENGLISH CREDIT**

# ARTS



## COURSE DESCRIPTIONS

### AP 2-D ART & DESIGN PORTFOLIO

Develop your 2-D skills through materials and processes such as graphic design, photography, collage, printmaking, fashion illustration, collage, and others. You'll create artwork that reflects your own ideas and skills and what you've learned.

#### SKILLS YOU'LL LEARN:

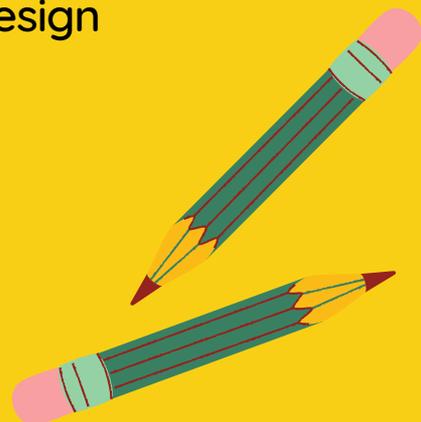
- Investigating the materials, processes, and ideas that artists and designers use
- Practicing, experimenting, and revising as you create your own work
- Communicating your ideas about works of art and design

### AP DRAWING PORTFOLIO

Develop your skills in drawing as you experiment with different materials and processes. You'll create artwork that reflects your own ideas and skills and what you've learned.

#### SKILLS YOU'LL LEARN:

- Investigating the materials, processes, and ideas that artists and designers use
- Practicing, experimenting, and revising as you create your own work
- Communicating your ideas about works of art and design



# ENGLISH



## COURSE DESCRIPTIONS

### AP LANGUAGE & COMPOSITION

Learn about the elements of argument and composition as you develop your critical-reading and writing skills. You'll read and analyze nonfiction works from various periods and write essays with different aims: for example, to explain an idea, argue a point, or persuade your reader of something.

#### SKILLS YOU'LL LEARN:

- Reading closely, analyzing, and interpreting a piece of writing
- Evaluating a source of information
- Gathering and consolidating information from different sources
- Writing an evidence-based argument
- Drafting and revising a piece of writing

### AP LITERATURE & COMPOSITION

Learn how to understand and evaluate works of fiction, poetry, and drama from various periods and cultures. You'll read literary works and write essays to explain and support your analysis of them.

#### SKILLS YOU'LL LEARN:

- Read a text closely and draw conclusions from details
- Identify the techniques used by an author and their effects
- Develop an interpretation of a text
- Present your interpretation and make an argument for it in writing

**NOTE: AP RESEARCH AND AP SEMINAR COUNT TOWARDS ENGLISH CREDIT**

# HISTORY & SOCIAL SCIENCES



## COURSE DESCRIPTIONS

### AP US HISTORY

In this year-long course students investigate significant events, individuals, developments, and processes in nine historical periods from approximately 1491 to the present. Students develop and use the same skills and methods employed by historians: analyzing primary and secondary sources; developing historical arguments; making historical connections; and utilizing reasoning about comparison, causation, and continuity and change. The course also provides eight themes that students explore throughout the course in order to make connections among historical developments in different times and places: American and national identity; work, exchange, and technology; geography and the environment; migration and settlement; politics and power; America in the world; American and regional culture; and social structures.

### AP WORLD HISTORY

Study the cultural, economic, political, and social developments that have shaped the world from c. 1200 CE to the present. You'll analyze texts, visual sources, and other historical evidence and write essays expressing historical arguments.

#### SKILLS YOU'LL LEARN:

- Evaluating primary and secondary sources
- Analyzing the claims, evidence, and reasoning you find in sources
- Putting historical developments in context and making connections between them
- Coming up with a claim or thesis and explaining and supporting it in writing

# HISTORY & SOCIAL SCIENCES



## COURSE DESCRIPTIONS

An illustration of a blue map with a red location pin and a red plus sign, located to the left of the AP Human Geography title.

### AP HUMAN GEOGRAPHY

Explore how humans have understood, used, and changed the surface of Earth. You'll use the tools and thinking processes of geographers to examine patterns of human population, migration, and land use.

#### SKILLS YOU'LL LEARN:

- Connecting geographic concepts and processes to real-life scenarios
- Understanding information shown in maps, tables, charts, graphs, infographics, images, and landscapes
- Seeing patterns and trends in data and visual sources such as maps and drawing conclusions from them
- Understanding spatial relationships using geographic scales

### AP US GOVERNMENT & POLITICS



This one-semester course (offered in the Spring of your Senior year) surveys the structure and function of American government and politics that begins with an analysis of the United States Constitution, and the foundation of the American political system. Students study the three branches of government, administrative agencies that support each branch, the role of political behavior in the democratic process, rules governing elections, political culture, and the workings of political parties and interest groups. The discussions will emphasize the changing political culture of American society and its effect on voting patterns, trends, and the processes of government. The main thrust of this course is to provide you with the tools to apply your knowledge of our political system to contemporary events in order to be an informed and engaged citizen in society.

# HISTORY & SOCIAL SCIENCES



## COURSE DESCRIPTIONS

### AP ECONOMICS: MICROECONOMICS

Study the principles of economics that apply to the behavior of individuals within an economic system. You'll use graphs, charts, and data to analyze, describe, and explain economic concepts.

#### SKILLS YOU'LL LEARN:

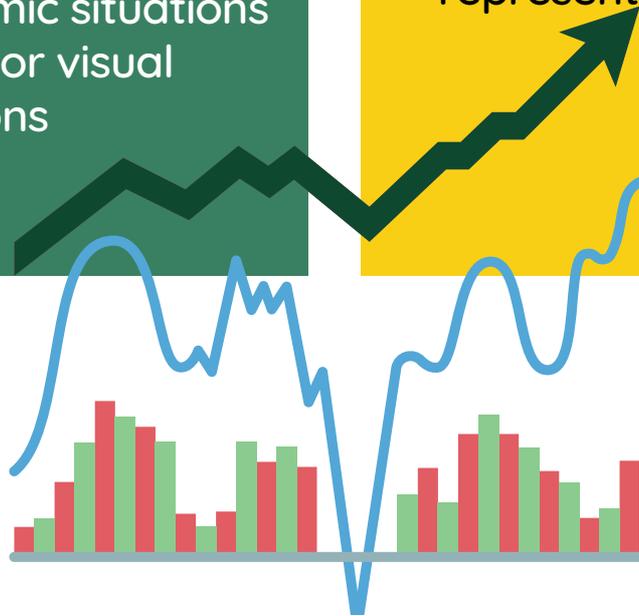
- Define economic principles and models
- Explain given economic outcomes
- Determine outcomes of specific economic situations
- Model economic situations using graphs or visual representations

### AP ECONOMICS: MACROECONOMICS

Explore the principles of economics that apply to an economic system as a whole. You'll use graphs, charts, and data to analyze, describe, and explain economic concepts.

#### SKILLS YOU'LL LEARN:

- Define economic principles and models
- Explain given economic outcomes
- Determine outcomes of specific economic situations
- Model economic situations using graphs or visual representations



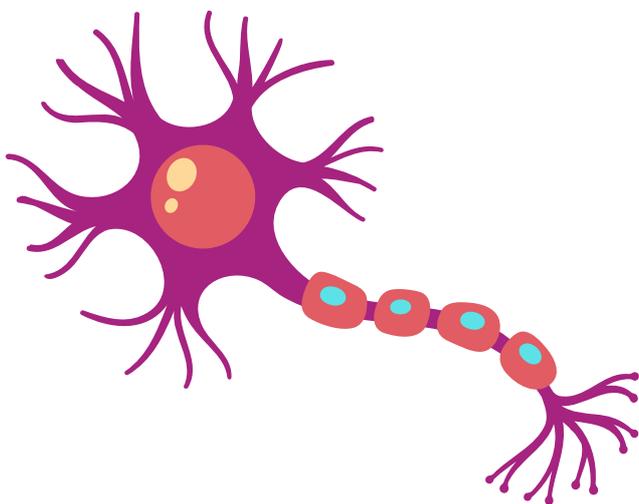
# HISTORY & SOCIAL SCIENCES



## COURSE DESCRIPTION

### AP PSYCHOLOGY

Explore the ideas, theories, and methods of the scientific study of behavior and mental processes. You'll examine the concepts of psychology through reading and discussion and you'll analyze data from psychological research studies.



### SKILLS YOU'LL LEARN:

- Connecting psychological concepts and theories to real-life scenarios
- Understanding and interpreting data
- Analyzing research studies in psychology

# MATH & COMPUTER SCIENCE



## COURSE DESCRIPTIONS

### AP CALCULUS AB

Explore the concepts, methods, and applications of differential and integral calculus. You'll work to understand the theoretical basis and solve problems by applying your knowledge and skills.

#### SKILLS YOU'LL LEARN:

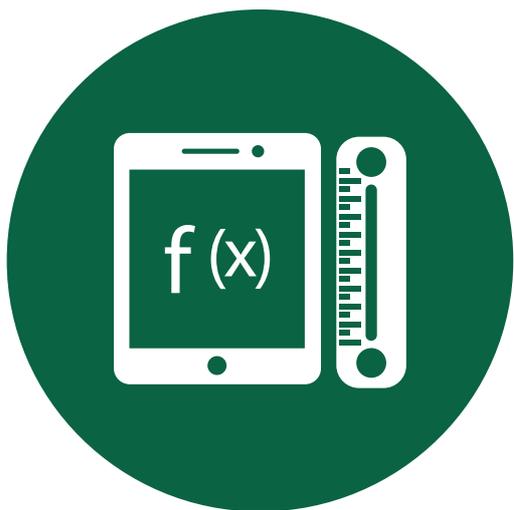
- Determining expressions and values using mathematical procedures and rules
- Connecting representations
- Justifying reasoning and solutions
- Using correct notation, language, and mathematical conventions to communicate results or solutions

### AP CALCULUS BC

Explore the concepts, methods, and applications of differential and integral calculus, including topics such as parametric, polar, and vector functions, and series. You'll perform experiments and investigations and solve problems by applying your knowledge and skills.

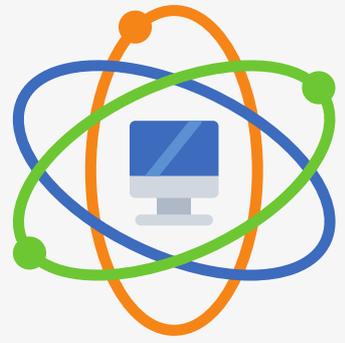
#### SKILLS YOU'LL LEARN:

- 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



# CALCULUS

# MATH & COMPUTER SCIENCE



## COURSE DESCRIPTIONS

### AP COMPUTER SCIENCE A

Get familiar with the concepts and tools of computer science as you learn a subset of the Java programming language. You'll do hands-on work to design, write, and test computer programs that solve problems or accomplish tasks.

#### SKILLS YOU'LL LEARN:

- Designing a program, developing the algorithms it needs, and writing code to implement them
- Testing program code and correcting errors
- Documenting and explaining how program code works

### AP COMPUTER SCIENCE PRINCIPLES

Learn the principles that underlie the science of computing and develop the thinking skills that computer scientists use. You'll work on your own and as part of a team to creatively address real-world issues using the tools and processes of computation.

#### SKILLS YOU'LL LEARN:

- Making connections between concepts in computing
- Designing a program to solve a problem or complete a task
- Applying abstractions in computation and modeling
- Analyzing computational work
- Communicating ideas about technology and computation
- Working collaboratively to solve problems



# MATH & COMPUTER SCIENCE



## COURSE DESCRIPTION

---

### AP STATISTICS

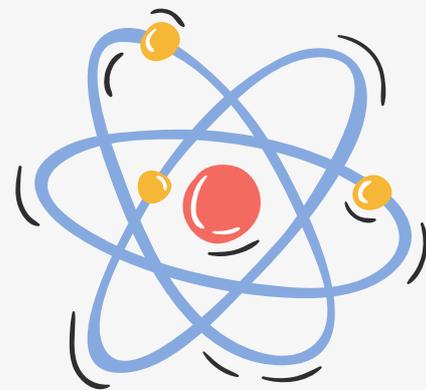
Learn about the major concepts and tools used for collecting, analyzing, and drawing conclusions from data. You'll explore statistics through discussion and activities, and you'll design surveys and experiments.



### SKILLS YOU'LL LEARN:

- Selecting methods for collecting or analyzing data
- Describing patterns, trends, associations, and relationships in data
- Using probability and simulation to describe probability distributions and define uncertainty in statistical inference
- Using statistical reasoning to draw appropriate conclusions and justify claims

# SCIENCES



## COURSE DESCRIPTIONS

### AP BIOLOGY

Study the core scientific principles, theories, and processes that govern living organisms and biological systems. You'll do hands-on laboratory work to investigate natural phenomena.

#### SKILLS YOU'LL LEARN:

- Designing experiments and procedures to test a prediction or theory
- Interpreting data to draw conclusions
- Collecting and analyzing data
- Developing and supporting a scientific claim with evidence

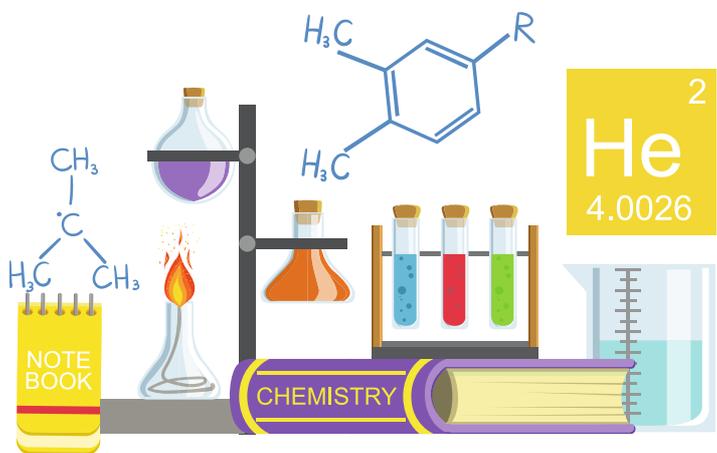
### AP CHEMISTRY

Learn about the fundamental concepts of chemistry including structure and states of matter, intermolecular forces, and reactions. You'll do hands-on lab investigations and use chemical calculations to solve problems.

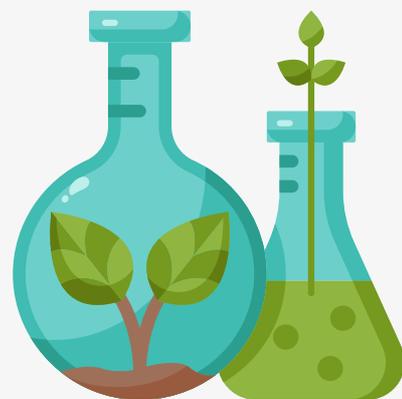
Note: Save your lab notebooks and reports; colleges may ask to see them before granting you credit.

#### SKILLS YOU'LL LEARN:

- Designing experiments and procedures to test a prediction or theory
- Explaining how the microscopic structure of a substance determines its chemical properties
- Making a scientific claim and supporting it with evidence
- Creating graphs, diagrams, and models that represent chemical phenomena
- Balancing a chemical equation



# SCIENCES



## COURSE DESCRIPTIONS

### AP ENVIRONMENTAL SCIENCE

Explore and investigate the interrelationships of the natural world and analyze environmental problems, both natural and human-made. You'll take part in laboratory investigations and field work.

Note: Save your lab notebooks and reports; colleges may ask to see them before granting you credit.

#### SKILLS YOU'LL LEARN:

- Explaining environmental concepts and processes
- Applying quantitative methods in solving problems
- Analyzing a research study to identify a hypothesis
- Analyzing data, visual representations, and writings
- Proposing a solution for an environmental problem and supporting your idea with evidence

### AP PHYSICS

Learn about the foundational principles of physics as you explore Newtonian mechanics; work, energy, and power; mechanical waves and sound; and introductory, simple circuits. You'll do hands-on laboratory work to investigate phenomena.

Note: Save your lab notebooks and reports; colleges may ask to see them before granting you credit..

#### SKILLS YOU'LL LEARN:

- Interpreting and describing representations and models
- Formulating a scientific question or hypothesis
- Analyzing data and evaluating evidence
- Making connections
- Using mathematics to solve science problems
- Designing an experiment to answer a scientific question or to test a hypothesis
- Working with scientific explanations and theories

$$E = mc^2$$

# WORLD LANGUAGES & CULTURES



## COURSE DESCRIPTIONS



### AP GERMAN LANGUAGE & CULTURE

Develop your German language skills and learn about the cultures in German-speaking parts of the world.

You'll practice communicating in German and study real-life materials such as newspaper articles, films, music, and books.

#### SKILLS YOU'LL LEARN:

- Understand German when you hear it and read it
- Holding conversations in real-life situations
- Writing stories, letters, emails, essays, and other texts

### AP JAPANESE LANGUAGE & CULTURE

Develop your Japanese language skills and learn about Japanese culture. You'll practice communicating in Japanese and you'll engage with real-life materials such as newspaper articles, films, music, and books.

#### SKILLS YOU'LL LEARN:

- Understand Japanese when you hear it and read it
- Holding conversations in real-life situations
- Writing text messages, letters, emails, essays, and other texts



### AP SPANISH LANGUAGE & CULTURE

Develop your Spanish language skills and learn about the cultures in Spanish-speaking parts of the world.

You'll practice communicating in Spanish and study real-life materials such as newspaper articles, films, music, and books.

#### SKILLS YOU'LL LEARN:

- Understand Spanish when you hear it and read it
- Holding conversations in real-life situations
- Writing stories, letters, emails, essays, and other texts

**NOTE:** AP World Language classes are predominately offered in 11-12th grade. They are also offered for former immersion students; this may include 9-10th grade students.

