



# SAN GABRIEL ACADEMY

## AP STUDENT GUIDELINES AND REQUIREMENTS

### SCIENCE

#### PREREQUISITES

**AP CHEMISTRY** Biology, Algebra II, *Must have taken or currently taking Pre Calc*

**AP PHYSICS** Pre Calc *(honors Pre Calc is better)*

**AP BIOLOGY** Biology, Algebra II, *(chemistry recommended)*

#### GRADES AND GPA

**3.5 overall GPA** (or by written permission of teacher).

*Must bring a signed copy of your current transcript to be accepted into the course.*

**Must pass all prerequisites with a minimum of a B+**

#### AP CHEMISTRY

- › The AP Chemistry course provides students with a college-level foundation to support future advanced coursework in chemistry. Students cultivate their understanding of chemistry through inquiry-based investigations, as they explore content such as: atomic structure, intermolecular forces and bonding, chemical reactions, kinetics, thermodynamics, and equilibrium.

#### AP PHYSICS

- › AP Physics 1 is an algebra-based, introductory college-level physics course. Students cultivate their understanding of physics through inquiry-based investigations as they explore these topics: kinematics, dynamics, circular motion and gravitation, energy, momentum, simple harmonic motion, torque, and rotational motion, electric charge and electric force, DC circuits, and mechanical waves and sound.

#### AP BIOLOGY

- › AP Biology is an introductory college-level biology course. Students cultivate their understanding of biology through inquiry-based investigations as they explore the following topics: evolution, cellular processes, energy and communication, genetics, information transfer, ecology, and interactions.





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## AP STUDENT GUIDELINES AND REQUIREMENTS

### HISTORY

#### PREREQUISITES

**AP GOVERNMENT** English classes and proficient writing skills

**AP US HISTORY** English classes and proficient writing skills

#### GRADES AND GPA

**3.5 overall GPA** (or by written permission of teacher).

*Must bring a signed copy of your current transcript to be accepted into the course.*

**Must pass all prerequisites with a minimum of a B+**

#### AP US GOVERNMENT

› Must have taken APUSH pass the A.P. U.S. History exam. 3.0 or Above.

#### AP US HISTORY

- › 3.5 GPA or above
- › B+ or above in World History
- › Must pass-writing exam.

Anyone below 3.5 GPA must do the following:

- › Must petition the instructor and have an interview with the instructor.
- › Letter of recommendation from English Teacher and World History teacher.
- › Must pass the writing exam.

#### TRANSFER STUDENTS

- › Passed APUSH Exam 3.0 or above.
- › If not taken APUSH must take a writing exam and personal interview with the instructor.

#### SPECIAL CIRCUMSTANCES

- › Should a student who excelled in regular U.S. History wants to take AP U.S. Government, the instructor at his discretion could permit him/her to take the course.





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## AP STUDENT GUIDELINES AND REQUIREMENTS

### MATHEMATICS

#### PREREQUISITES

**AP CALCULUS AB** Pre Calc (*honors Pre Calc is better*)

**AP CALCULUS BC** Calculus AB (*B+ grade minimum*)

#### GRADES AND GPA

**3.5 overall GPA** (or by written permission of teacher).

*Must bring a signed copy of your current transcript to be accepted into the course.*

**Must pass all prerequisites with a minimum of a B+**

#### AP CALCULUS AB

➤ AP Calculus AB is designed to be equivalent of a first-semester college calculus course devoted to topics in differential and integral calculus. This course focuses on a student's understanding of calculus concepts and provides experience with methods and applications. It requires students to use definitions, and theorems to build arguments and justify conclusions. Any student who has completed successfully taking Precalculus or Honors course are recommended to take this course. Before enrolling, it is important that students must be familiar with the properties of functions, the composition of functions, the algebra of functions and the graphs of the functions. It is important that students also know to sketch basic sine and cosine functions and able to be familiar with values of these functions for one full cycle. The course features a metarepresentational approach to calculus with concepts, results, and problems expressed graphically, numerically, analytically, and verbally. All throughout the course, these four methods will be applied in limits, differential calculus, and integral calculus. A sustained emphasis on clear communication of methods, reasoning, justifications, and conclusions is essential. At the end of the year, students must appear for the AP college board exam which is usually held during the 2nd week of May.

#### AP CALCULUS BC

- The course is designed for students who have taken AP Calculus AB with a minimum passing grade of 3.0 from AP College Board exam. This course is designed to be equivalent to both first and second semester college calculus courses. Besides all the concepts done in AB course, students will apply the content and skills to parametrically defined functions, polar curves, and vector valued functions. There will be additional integration techniques and applications to solve problems that are taught in this course. This course also introduces the topics of sequences and series. More technology skills are learned in this course. Students must take the college board exam at the end of the year, usually during the 2nd week of May.
- Students will use the techniques learned in this course (AP Calculus BC) to develop a mathematical model for a real world system.

