



KIS Advanced Level Course Guide

The mission of Korea International School is to inspire students with a passion for learning and cultivate the competence, self-assurance, initiative, and creativity necessary for success in the global community.

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About this guide...

This course guide was prepared by Korea International School (KIS) administrators and teachers to assist you in planning your high school academic program. This document can help identify advanced level courses for which you wish to register for the upcoming school year and/or assist in your decision to determine which advanced courses are most appropriate for you. The table of content on the following page will help you locate the advanced course information.

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Grade(s): 10, 11, 12

Prerequisite: Biology and Chemistry

Additional Information: Chemistry is a corequisite and can be taken concurrently

Brief Description: In AP Biology, an emphasis is placed on students making connections between the big ideas within the AP Biology Curriculum Framework, which are evolution, cellular energy and communication, genetics, and biological interactions. The course is the equivalent of an introductory college-level biology course, and is designed to prepare students for success on the AP Biology Exam.

Deciding if AP Biology is right for you:

- Students are actively engaged in the process of science through class assignments and discussions which inform their laboratory experiences. A goal of this course is to increase students' critical thinking and problem solving abilities by actively anticipating experimental setups in group discussions and inquiry based labs. Emphasis is also given to present-day technologies and procedures to familiarize students with limitations of testable hypotheses in order to develop better designed experimental investigations.
- An AP Biology class is typically made up of a mixture of sophomores, juniors and seniors. All students who enroll in AP Biology should have strong academic performance **and** a sincere passion for science.
- Rising sophomores who may be interested in pursuing STEM fields **are encouraged to select AP Biology as their first AP course during their sophomore year**. This means that if successful, students will have the greatest opportunity to enroll in further KIS offered AP science courses later on in their high-school career.
- AP Biology is a good fit for you if:
 - You are a rising sophomore, junior, or senior.
 - You feel comfortable with critical reasoning, problem solving, and student-designed inquiry laboratories.
 - You are ready to use problem solving skills and critical thinking on a daily basis.
 - You are prepared to take risks, collaborate with others, and work through struggles to understand.
 - You are independent and self-motivated and can ask for help when you feel that you're struggling.
 - You are interested in pursuing a STEM field.
 - You like to **do** science instead of just talking about it!
- Out of class expectations:
 - You will be expected to **watch screencast lecture videos, read and take notes from a college-level biology text, and complete practice problems**. There will typically be about 4 hours of this type of work each week.
 - We will complete a lab about every 3 weeks and for each lab you will be required to keep a lab notebook. Each lab will require a written analysis. Each of these lab writeups typically requires 2 hours of work outside of class.
 - If you are struggling, you will need to seek help during autonomous time, before school, or after school. In this situation, you need to be responsible for showing initiative.
 - A summer assignment that reviews several of the subjects learned during biology is required prior to beginning this course. This will take about 7 hours to complete.

Enrollment Application: To enroll in AP Biology, you need to complete [the enrollment application](#).

Grade(s): 10, 11, 12

Calculator: TI-Nspire CX CAS

Prerequisite: Pre-calculus with at least a “B+” average both semesters and teacher recommendation

Brief Course Description: AP Calculus AB focuses on students’ understanding of Calculus concepts and provides experience with methods and applications. Along with computational competence, there’s an emphasis on important connections and multi-representational approach to Calculus, where problems are being expressed graphically, numerically, analytically, and verbally. Students experiment and explore a few real-life situations and appreciate the power of Calculus theories. Students use technology to reinforce relationships among functions, to confirm written work, to implement experimentation, and to assist in interpreting results.

The AP Calculus AB course is roughly equivalent to a first semester college Calculus course devoted to topics in differential and integral Calculus. This course entails a study of, but is not limited to:

Preparation for Calculus	Applications of Differentiation	Differential Equations
Limits and Their Properties	Integration	Applications of Integration
Differentiation	Integration Techniques	

You have met the AP Calculus AB requirements if:

- you are a rising junior or a rising senior;
- you have completed Precalculus with a minimum grade of B+; and
- an interview with head of Math department / AP Calculus teacher

AP Calculus AB could be a good fit for you if:

- You have plans to study an engineering course, medical sciences, or any business studies in college. AP Calculus AB is useful in various fields.
- Doing math homework/problems is actually fun for you, not a chore.
- You have a very solid understanding of Precalculus topics including but not necessarily limited to the characteristics and behavior of Polynomial Functions, Transcendental Functions and Trigonometric Functions.
- You are prepared to have 4-6 hours of homework per week.
- You are an accomplished independent learner who is able to effectively read and integrate the concepts presented in the text part of the textbook.
- You are prepared to take risks and challenge yourself.
- You enjoy working both collaboratively and alone.
- You persevere even on the most difficult concepts/problems.
- You have the ability to focus on details.
- You are familiar with a graphic display calculator.

Grade(s): 11, 12

Calculator: TI-Nspire CX CAS

Prerequisite: 95% in Pre-calculus both semesters with a teacher recommendation and successful completion of learning objectives outlined in KIS independent study program; *or* B- in AP Calculus AB both semesters; *or* A- in Calculus and teacher recommendation

Brief Course Description: AP Calculus BC is a one-credit course. This course examines function behavior and their applications focusing on analytical, graphical or tabular presentation. This course entails a study of, but is not limited to:

Preparation for Calculus	Integration	Infinite Series
Limits and Their Properties	Integration Techniques	Calculus of Parametric Equations
Differentiation	Differential Equations	Calculus of Polar Curves
Applications of Differentiation	Applications of Integration	

AP Calculus BC could be a good fit for you if:

- Doing math homework/problems is actually fun for you, not a chore.
- You have a very solid understanding of Precalculus topics including but not necessarily limited to the characteristics and behavior of Polynomial Functions, Transcendental Functions and Trigonometric Functions.
- You are prepared to have 4-6 hours of homework per week.
- You are an accomplished independent learner who is able to effectively read and integrate the concepts presented in the text part of the textbook.
- You are prepared to take risks and challenge yourself.
- You enjoy working both collaboratively and alone.
- You are interested in a math-intensive University course of study.
- You persevere even on the most difficult concepts/problems.
- You have a strong attention to detail.

Grade(s): 10, 11

Prerequisite: Interview with instructor in January/February. The student must have strong collaborative skills, developed analytical skills, and an awareness of current events and global issues. The student also needs to have the ability to self-direct and work autonomously. Lastly, teacher recommendations from multiple disciplines will be required.

Brief Description: AP Seminar is the first component to the two-year AP Capstone program, followed by AP Research. The class engages students in real-world issues and current events through reading, watching, discovery, and discussion. Research is at the center of the course and students work individually and in teams on large projects with genuine autonomy. The skills learned apply to all other classes now and in the future, including science, history, and English. A demanding college-level two-year experience for students who are motivated to learn and grow as young adults.

Deciding if the AP Capstone Program is right for you

- Have a strong interest in global issues, trends and perspectives.
- Enjoy class discussions and aren't afraid to voice their opinions.
- Can actively listen to others and compromise.
- Enjoy collaborating with classmates on long assignments and projects.
- Can self-direct and plan for long projects.
- See learning as a process and aren't narrowly focused on grades.
- Can handle and analyze mature content.

It is essential for students to be prepared and actively engaged every class to express/examine your own beliefs and perceptions. Classes are often spent in discussion, planning, and engaging in the research process. Autonomy is a large component of the class and students must be able to work with others, as well as independently, and set their own deadlines and plan of action.

Enrollment Application: To enroll in AP Seminar, you will have to have approval from two of your teachers in English and/or STEM subjects. All students will continue to the second year with AP Research.

Grade(s): 11, 12

Prerequisite: Chemistry and Algebra II

Additional Information: “B” average or higher in Chemistry is recommended

Brief Description: AP Chemistry is an extensive, year-long course that studies the origin of the properties and reactivity of elements and the compounds they make, the factors that affect reaction rates, the critical role of energy transformations in chemistry, and the equilibria established by the coexistence of reversible processes. Special emphasis is placed on translating and rendering models, mathematics, scientific inquiry, strategic thinking, creating and interpreting data visualization tools, high-level scientific reasoning, and laboratory practices. AP Chemistry is designed to provide the learning and experiences that one achieves during a general chemistry course usually taken in the first year of college.

Deciding if AP Chemistry is right for you:

- This course is academically rigorous and assumes that a student is mathematically fluent up to the level of Algebra II. Therefore, it is best adapted for students who are rapidly able to perform dimensional analysis, solve multivariate equations, solve differential equations, and perform logarithmic calculations. There is no calculus in AP Chemistry.
- The design of AP Chemistry curriculum assumes fluency in the knowledge and skills acquired in a first course in high school chemistry. It is unlikely that a student would score a 3 or better on the AP Chemistry Exam without having first mastered a first course in high school chemistry.
- AP Chemistry is best suited for students who are comfortable working with chemicals, who enjoy designing and conducting laboratory experiments, and who have a tolerance for experiments with unexpected outcomes. The most successful AP Chemistry students are determined to perform safe, careful, well-designed experiments but can also accept failure. The redesign and redoing of experiments is common in this class.
- AP Chemistry is right for you if:
 - You performed well in Chemistry.
 - You like solving word problems.
 - You are committed to lab safety.
 - You are a strategic thinker who enjoys unique challenges.
 - You are independent and self-motivated, but you can also work on teams successfully.
 - You are not taking too many other challenging AP courses (ask your counselor!)
 - You get excited when someone asks you to pour concentrated hydrochloric acid, not frightened.
- Out of class expectations:
 - You will be expected to practice chemistry problems, watch videos, work with simulations, and read outside of school. You can expect this will take about 2-4 hours a week.
 - You will be expected to write multi-page laboratory reports, read and revise lab reports, and design experimental procedures on a weekly basis. You can expect this will take about 2-4 hours a week.
 - A summer assignment that reviews several of the subjects learned during chemistry is required prior to beginning this course. A test is administered in the first week of AP Chemistry.
- **Enrollment Application:** Please complete [the enrollment application](#).

Grade(s): 9, 10, 11, 12

Prerequisite: Chinese IV with at least "B-" or with a teacher recommendation

Brief Description: The AP Chinese Language and Cultural course aims to provide qualified students with opportunities to further explore Chinese culture and improve communicative skills (interpersonal mode, interpretive mode, and presentational mode). In doing so, students will develop language proficiency in listening, speaking, reading, and writing. There are various supplementary materials and authentic materials provide in addition to the texts. Topics include: Chinese Behavioral Culture, The Popular Culture in China, Foods and Clothes in China, Leisure Time and Sports, Festivals and Customs, Environmental Issues and Society, Historical Culture, Travel and Transportation. By the end of the course, students will be able to further develop the communicative proficiency in Chinese, to develop students awareness and appreciation of in Chinese culture, to use critical thinking skills to compare Chinese with other languages and cultures, to use Chinese language to communicate with native Chinese speaker appropriately and be involved in Chinese community. Assessments will be geared to the expectations of the AP Chinese Language and Culture Exam.

Deciding if AP Chinese Language and Culture is right for you:

- You have a strong foundation in Chinese, particularly in written and oral communication skills
- You have a love for the Chinese language and enjoy engaging in conversation with others in Chinese on a variety of contemporary issues
- You are prepared to take risks with your language and challenge yourself to improve your communication skills, both orally and in writing.
- You are an independent and self-motivated learner with good study habits
- You are prepared to commit two or more hours a week to independent practice of the AP tasks required on the AP Chinese Exam
- You enjoy comparing the cultural products, practices, and perspectives of peoples of various communities.

Out of class expectations:

- You will be expected to seek out articles and podcasts on current events in the Chinese-speaking world
- You will be making regular presentations to the class on a range of cultural themes
- You will be required to complete regular reflections/reactions and cultural comparisons of material presented in class
- You will be required to complete regular AP task practice activities for homework.

Grade(s): 11, 12

Prerequisite: Recommendation from current social science teacher.

Additional Information: B or better in previous social sciences course is recommended.

Brief Description: The AP course in Comparative Government and Politics introduces students to fundamental concepts used by political scientists to study the processes and outcomes of politics in a variety of country settings.

Deciding if AP Comparative Government is right for you:

- AP Comparative Government is a good fit for you if:
 - You are a rising junior or rising senior.
 - You are ready to take risks and push yourself as a critical thinker.
 - You are prepared to collaborate positively with others.
 - You are independent and self-motivated.
 - You are an engaged, inquisitive learner.
 - You seek feedback when you need it, even if/when you don't necessarily want to.
 - You have an international mindset and are flexible in your thinking.
 - You are interested in politics, international relations, and/or diplomacy as a potential career path.
 - You are willing to debate and discuss international issues with respect and deference to others.
 - You want to supplement your Model United Nations (MUN) club content.

- Out of class expectations:
 - You will be expected to read actively every day.
 - Keep up with current events and global issues.

Grade(s): [10], 11, 12

Additional Information: This course is also open to sophomores who have earned at least 93% in Programming II

Brief Description: AP computer Science Principles is designed for students who want to change the world but may be intimidated by the technological skills needed to do so. Students will develop their creativity and build confidence as they explore the impact computing and technology can have on the world and as they delve into projects of personal interest. This course emphasizes the 21st century skills (creativity, communication, collaboration, research and analysis, and global cultural awareness) that are essential for success in college and beyond.

Deciding if AP Computer Science Principles is right for you:

- AP CSP is designed to be a first high school computer class. Prior experience with programming, for example, is not a prerequisite for success in this course.
- This is *not* your traditional computer class; it is designed for the motivated student whose primary interest is in a field other than Computer Science, but who recognizes that a basic understanding of computer systems, processes, and programming is necessary and/or advantageous for innovation in any field of study.
- Students enrolling in AP CSP should have demonstrated strong academic performance across all subject areas.
- AP Computer Science Principles is a good fit for you if:
 - You have strong written and oral communication skills
 - You are willing to take risks and see failures as growth opportunities
 - You are not afraid to take on messy problems or challenges that do not have a predetermined “right” answer
 - You enjoy being challenged to think creatively
 - You are able to work effectively as part of a team or independently
 - You are highly motivated and willing to seek help and ask questions
 - You are not enrolled in too many other challenging AP courses (talk to your counselor!).
- Out of class expectations
 - Some of the course units will require heavy out of class reading, videos, note-taking, and practice assignments (plan on two hours per week for these types of assignments)
 - Project-based units will require lab time outside of class to complete. Depending on the type of project, this will likely require you to spend time in class before or after school and during autonomous time.
 - You will often need to set your own schedule and deadlines for completing additional research and self-guided learning for independent projects.

Enrollment Application: To enroll in AP Computer Science Principles, please begin by visiting <https://advancesinap.collegeboard.org/stem/computer-science-principles>. Watch the overview video, and read through the basic description of the course. If you still would like to enroll in AP CSP, please complete the application form: <http://goo.gl/forms/nNfERdQx5t>.

Grade(s): 11, 12

Additional information: B or better in current Social Studies and Math class is recommended. Teacher recommendation is required from a student's previous social studies teacher.

Brief Description: AP Economics is a year long course that gives students a thorough understanding of both Microeconomic and Macroeconomic principles and theories. This course is designed to give students a strong background in the basics of economics along with the ability to excel on the AP Microeconomics and AP Macroeconomics exams. Microeconomics topics include the nature of supply and demand, insight into making production decisions, and examining the structures of different product and resource markets. Macroeconomics topics include economic systems, national incomes and price levels, measuring and interpreting economic growth, international markets, the financial sector, and the effect of government policies on the economy.

Deciding if AP Economics is right for you:

- AP Economics is designed to be a **first economics class**. This means that you do not need to take regular economics or have an economics background before enrolling.
- A typical AP Economics class is made up of a mixture of juniors and seniors. All students who enroll in AP Economics should have strong academic performance, a sincere passion for the social sciences, and motivation to learn more about the world around them.
- Students who enroll in the class are expected to take two separate AP exams: AP Microeconomics and AP Macroeconomics.
- A strong background in math is recommended. Economics uses a lot of the same logic that is found in various math courses.
- AP Economics is a good fit for you if:
 - You have strong reading and skills
 - You are ready to use problem-solving and critical thinking skills on a daily basis.
 - You are prepared to take risks, collaborate with others, and work through struggles to understand challenging concepts.
 - You are independent and self-motivated and can ask for help when you feel that you're struggling.
 - You are not enrolled in too many other challenging AP courses (talk to your counselor!).
 - You are interested in business, finance, or economics as a field of study.
 - You are interested in changing your perspective on the world around you!
- Out of class expectations:
 - You will be expected to **read and review your class notes on your own before coming to class**
 - Reading for each class typically includes 8 - 14 pages with many graphs and pictures. The reading covers concepts that are often difficult to understand. Class time is used to help make sense of the reading and sharpen your skills.
 - If you are struggling, you will need to seek help from your teacher during autonomous time, before school, or after school. In this situation, you need to be responsible for showing initiative.

Grade(s): 11, 12

Prerequisite: English 10 or English 11

Additional Information: The student should have strong critical thinking, reading, and writing skills. In addition to getting signature approval from their current English teacher, students should have a “B” average or higher in either English 10 or English 11. For rising juniors, there is a required written diagnostic in January/February.

Brief Description: AP Language can be taken as a junior-year course or a senior-year course. Both options will be focused on approaches to writing. Students write a multitude of in-class, timed essays centered on the AP exam prompts, along with various other writing tasks and projects. We develop our critical thinking skills through a non-fiction lens; exploring speeches, essays, novels, plays, along with current events and figures shaping the world. We then apply this to our discussions, analysis, and writing. In essence, this course is a study of language, so awareness of a writer’s purpose, style, and strategies is essential.

Deciding if AP Language is right for you:

- AP Language is designed to maximize the opportunities students have to write in many different forms. It’s essential that students are prepared each class and have the ability to write under duress.
- A typical AP Language student is motivated to become a better writer and is mature enough to accept critical feedback.
- Students who enjoy project-based learning and want to excel at large projects with minimal direction.
- AP Language is a good fit if you:
 - Can accept and apply targeted criticism of your writing as part of the process.
 - Can reflect on your own writing and learn from exemplars as models of effective writing.
 - Are self-motivated and can work with autonomy.
 - Can handle the pressure of timed essays.
 - Enjoy class discussions based on current events and issues.
 - Want to learn more about current events and figures who are shaping the world.
 - Want to be challenged to become an effective writer with purpose and voice.
 - Are willing to take risks as a writer, understanding that it’s not about immediate grades.
- Out of class expectations:
 - You will be expected to engage with articles and media (TED Talks, podcasts, etc.) centered on global events and issues throughout the year.
 - You will be expected to set your own deadlines and timelines for long projects.
 - You will be expected to review sample essays, along with your own writing on a consistent basis.

Enrollment Application: To enroll in AP Language, you will need to be pre-approved by your sophomore or junior English teacher, with a B average in English. Rising juniors need to take a written, timed writing diagnostic with the AP Language teacher in the spring.

Grade(s): 12

Prerequisite: English 11 or AP Language

Additional Information: Students should be passionate about reading literature and participating in analytic discussions regarding literature, characters, and relating them to the world in which we live. In addition to getting signature approval from their current English teacher, it is recommended that students have earned at least a B+ in previous English courses.

Brief Description: AP English Literature & Composition is mainly focused on literature, but the course has a great emphasis on how to think critically, analyze text, and synthesize ideas into cohesive claims. The course focuses on skills rather than content. There is a lot of reading and class discussions with collaborative critical analysis.

Deciding if AP English Literature & Composition is right for you:

- AP English Literature & Composition is a stand-alone class. This means that AP Language & Composition is not a prerequisite. If you enjoy English and you're ready for the next challenge, then this course is for you.
- AP English Literature & Composition is a senior level course. Students should have strong academic performance and a sincere passion for reading books, short stories, and poetry.
- AP Lit is a good fit for you if:
 - You feel comfortable with reading novels, short stories, and poems.
 - You are ready to use problem solving skills and critical thinking on a daily basis.
 - You are prepared to take risks, collaborate with others, and work through struggles to understand.
 - You are independent and self-motivated and can ask for help when you feel that you're struggling.
 - You are not enrolled in too many other challenging AP courses (talk to your counselor!).
- Out of class expectations:
 - You will be expected to **read, write, and collaborate**. There will typically be about 2 hours of this type of homework each week.
 - We will read a novel over the summer, two independent novels, several major texts together as a class throughout the year, and various short stories and poems.
 - If you are struggling, you will need to seek help during autonomous time, before school, or after school.

Enrollment Application: To enroll in AP English Literature & Composition, you need to get a signature from your current English teacher recognizing that you have the skills and the drive to be in this AP course.

Grade(s): 11, 12

Prerequisites: Biology and Chemistry

Brief Description: AP Environmental Science (APES) is a rigorous course that studies the interrelationships between Earth's physical, chemical, and biological systems. Significant lab work will be performed to explore and quantify how these systems interact, and how they fluctuate with time and with various stressors. Humans need for, and use of, Earth's natural resources will also be a prominent topic. The course will be both content and process driven where students will be required to quantitatively understand environmental changes over time, be able to develop experiments, and analyze data to assess the causes and effects of these changes.

Deciding if AP Environmental Science is right for you:

- Students do **not** need to have taken Introduction to Environmental Science to take APES. The introductory course is designed with different learning goals and objectives. The introductory course in environmental science is less quantitative, more career oriented, and entirely project-based.
- All students who enroll in APES should have strong academic performance **and** a sincere passion for science and the environment. Students should be very capable of designing and completing laboratory experiments, and have a strong command of the vocabulary used to represent food webs, nutrient cycling, and basic ecology. In addition, balancing chemical equations, acid/base relationships, and the basic mathematics behind energy transformations will be key to success.
- Students should have a genuine concern for global environmental issues, and how these issues may impact themselves.
- Students interested in pursuing the many and varied fields of study within environmental science at the college level **are encouraged to enroll in APES**. APES is meant to be the equivalent of a semester-long college course in environmental science.
- APES is a good fit for you if:
 - You really enjoyed the ecology portion of biology and the chemical processes and thermodynamics of chemistry.
 - You are aware of and are relatively knowledgeable about today's environmental issues.
 - You enjoy problem solving and thinking critically to explore alternative solutions to issues.
 - You are independent, self-motivated, and like being part of a greater cause.
 - You are not enrolled in too many other challenging AP courses (talk to your counselor!).
 - You enjoy going outside and you don't mind bugs and other crawling things.
 - You like to get your hands dirty once in awhile.
- Out of class expectations:
 - You will be expected to **watch online videos, read from books** (other than textbooks), and **conduct long term experiments** throughout the year. There will typically be about 3 hours of homework each week.
 - We will complete a lab about every 1.5 weeks, and for each lab you will be required to keep a lab journal. Each lab will require a written analysis. Each of these lab writeups typically requires 2 hours of work outside of class.
 - A summer assignment involving several different fields of exploration will be required prior to the beginning of class.

Enrollment Application: To enroll in APES, you need to complete [this enrollment application](#).

Grade(s): 11, 12

Prerequisite: French IV with at least "B-" or with a teacher recommendation

Brief Description: AP French Language and Culture is a rigorous course equivalent to a third year university level language course. The objective of this course is to prepare students for the AP French Language and Culture exam, by continuing to develop their proficiency in the three modes of communication: Interpretive, Interpersonal, and Presentational. In an immersion environment, students read and listen to a variety of authentic materials from all over the French-speaking world. Additionally, they will engage in written and oral analysis and discussion on a wide variety of cultural topics of the French-speaking world, making comparisons to their own communities. Assessments will be geared to the expectations of the AP French Language and Culture Exam.

Deciding if AP French Language and Culture is right for you:

AP French is a good a fit for you if:

- You have a strong foundation in French, particularly in written and oral communication skills
- You have a love for the French language and enjoy engaging in conversation with others in French on a variety of contemporary issues
- You are prepared to take risks with your language and challenge yourself to improve your communication skills, both orally and in writing.
- You are an independent and self-motivated learner with good study habits
- You are prepared to commit two or more hours a week to independent practice of the AP tasks required on the AP Exam
- You enjoy comparing the cultural products, practices, and perspectives of peoples of various communities.

Out of class expectations:

- You will be expected to seek out articles and podcasts on current events in the French-speaking world
- You will be making regular presentations to the class on a range of cultural themes
- You are expected to keep a personal journal of weekly current event and cultural theme presentations made by classmates in class
- You will be required to complete regular reflections/reactions and cultural comparisons of material presented in class
- You will be required to complete regular AP task practice activities for homework.

Grade(s): 11, 12

Calculator: TI-Nspire CX CAS

Prerequisite: 95% in AP Calculus AB both semesters with a teacher recommendation and successful completion of learning objectives outlined in KIS independent study program; **or** B in AP Calculus BC both semesters and teacher recommendation

Brief Description:

The yearlong course is divided into two semester courses: Multivariable Calculus and Linear Algebra. This math course is an elective for students who have a strong interest in math, who have already shown their excellence in math, and are planning on majoring in math or in a subject strongly related to math. We follow a typical first year Multivariable Calculus and Linear Algebra curriculum.

Content:

Students in Multivariable Calculus will cover material including Vectors and the Geometry of Space, Differentiation of Functions of Several Variables, Multiple Integration.

In Linear Algebra, the course includes Linear Equations, Linear Transformations, Spaces and subspaces, Linear Spaces, Orthogonality and Determinants.

Is it a Good Fit?

Multivariable Calculus / Linear Algebra is a good fit for you if:

- You are committed to study math or a subject strongly related to math in College.
- You have performed very high in all math courses at KIS.
- You are interested in pure math with fewer applications and hands-on activities than in prior courses and can concentrate during long lectures.
- You are looking forward to a high-paced math program.
- You are ready to use problem solving skills and critical thinking on a daily basis.
- You are independent, self-motivated and can ask for help when you feel that you're struggling.
- You are not enrolled in too many other challenging courses (talk to your counselor!).
- You have always been focused on understanding concept and the ability to transfer concepts to new problems rather than regurgitating skills and repeating processes.
- You are ready to dedicate additional time to studying during Autonomous block and at home.
- You manage stress and frustration well; you realize that understanding higher-level concepts may require you to be patient and to go back over problems multiple times through different approaches.

Expected Work:

Expected work out of class:

Students will be expected to work at home to review and extend their understanding. There will typically be about 4-6 hours of homework each week.

Grade(s): 11, 12

Additional Information: Open to students in grade 11-12 with concurrent enrollment in music ensemble (band, chorus, orchestra ensemble)

Brief Description: The AP Music Theory course consists of reading and analyzing notated music and advanced aural (ear) training. Particular emphasis will be placed upon developing listening skills, sight-singing ability, and knowledge of rhythm, melody, harmony, and other compositional devices. The successful student will be endowed with the skills necessary to function intelligently in any musical situation. The work of the course will emphasize preparation for the advanced placement music theory examination, but will also allow students to develop their own compositional techniques.

The AP Music Theory curriculum focuses mostly on music and compositional techniques of the “Common Practice Era”, which lasts from roughly 1600-1900. The greatest emphasis is on the late Baroque, Classical, and Early Romantic Eras (c. 1700-1850). However, many other styles of music will be related to this era and its compositional style.

Deciding if AP Music Theory is right for you:

- AP Music Theory is for the music student who want to understand how the music they perform has been created. Students need not be an exceptional performer. Rather, they should be someone interested in how music is composed and how understanding the compositional process will further their skills as a musician.
- AP Music Theory is *not* an entry-level music course. Students should know how to read melodic and rhythmic sheet music, and should know the majority of the 12 major scales prior to enrolling.
- AP Music Theory is a good fit for you if:
 - You have a passion for written and aural music
 - You enjoy a class with a variety of instruction modalities including: listening, analyzing, composing, and singing.
 - You enjoy listening to classical music
 - You are not afraid of singing (the tone of your singing voice will not be evaluated!)
 - You are prepared to take risks, collaborate with others, and work through struggles to understand challenging concepts.
 - You are independent and self-motivated and can ask for help when you feel that you’re struggling.
 - You are interested in being a part of the small population of the world who can understand how music is created so that everyone else can just enjoy it!
- Out of class expectations:
 - 15-30 minutes of homework for each class
 - Several music composition projects for the year
 - Practicing sight-singing melodies and using online dictation programs
 - Listening to and appreciating great music

Grade(s): 10, 11, 12

Prerequisite: Biology, Chemistry

Additional Information: Pre-Calculus (“B” average or higher) or Algebra II (“A-“ Average or higher) is recommended

Brief Description: AP Physics I is a year-long physics course. There is a lot of lab work and collaborative problem solving. The content is mainly mechanics, but the course has a greater emphasis on how to think critically, analyze data, and design experiments. The class is focused on skills rather than content.

Deciding if AP Physics I is right for you:

- AP Physics I is designed to be a **first physics class**. This means that you don’t need to take regular physics before enrolling. Some students enroll in regular physics their junior year and then take AP Physics I their senior year; students who do not feel confident enrolling in AP Physics I during their junior year sometimes take this path.
- All students who enroll in AP Physics I should have strong academic performance or a sincere passion for science/engineering.
- **Students interested in pursuing STEM fields, especially students interested in engineering, physics, or math are encouraged to enroll in AP Physics I during their junior year.** This puts them on the track towards enrolling in AP Physics 2 during their senior year.
- AP Physics 1 is a good fit for you if:
 - You are a rising junior **or** rising senior.
 - You feel comfortable with proportional reasoning, basic trigonometry, and algebra.
 - You are ready to use problem solving skills and critical thinking on a daily basis.
 - You are prepared to take risks, collaborate with others, and work through struggles to understand.
 - You are independent and self-motivated and can ask for help when you feel that you’re struggling.
 - You are not enrolled in too many other challenging AP courses (talk to your counselor!).
 - You are interested in pursuing a STEM field.
 - You like to **do** science instead of just talking about it!
- Out of class expectations:
 - You will be expected to **watch videos** and complete **practice problems**. There will typically be about 2 hours of this type of homework each week.
 - We will complete a lab about every 1.5 weeks and for each lab you will be required to keep a lab journal. Each lab will require a written analysis. Each of these lab writeups typically requires 2 hours of work outside of class.
 - If you are struggling, you will need to seek help from me during autonomous time, before school, or after school. In this situation, you need to be responsible for showing initiative.

Enrollment Application: To enroll in AP Physics 1, complete [this enrollment application](#).

AP Physics II

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Grade(s): 11, 12

Prerequisite: Successful completion of AP Physics I or “B” average or higher in Physics is recommended.

Brief Description: AP Physics II is best thought of as a **continuation of AP Physics I**. We continue to develop critical thinking and lab skills, but we move into different content. In AP Physics 2 we study light, electricity, magnetism, thermodynamics, fluids, and modern physics.

Deciding if AP Physics 2 is right for you:

Typically, students who enroll in AP Physics II are junior and seniors who successfully completed AP Physics I. These are students who will likely pursue fields in the sciences.

Enrollment Application: To enroll in AP Physics 2, complete [this enrollment application](#).

Grade(s): 11, 12

Prerequisite: Recommendation from current social science teacher

Additional Information: B or better in Biology is recommended

Brief Description: AP Psychology is a year-long psychology course which explores a wide variety of psychological concepts, theories and principles regarding psychology at work in the world around us.

Deciding if AP Psychology is right for you:

- AP Psychology is a course which necessitates careful and critical out-of-class reading, or else the class can get very difficult very quickly. Therefore, students should have strong, college-level independent study skills and an intrinsic interest in Psychology to keep them learning to the best of their ability.

- AP Psychology is a good fit for you if:
 - You are a rising junior or rising senior.
 - You are ready to take risks and push yourself as a critical thinker.
 - You are prepared to collaborate positively with others.
 - You are independent and self-motivated.
 - You are an engaged, inquisitive learner.
 - You seek feedback when you need it, even if/when you don't necessarily want to.
 - You are not enrolled in too many other challenging AP courses.
 - You want to better figure out yourself and the world around you.
 - You are interested in pursuing psychology, social science and/or humanities courses in the future.

- Out of class expectations:
 - You will be expected to read actively every day.
 - If you are struggling, you should seek help during autonomous time, before school, during lunch or after school. Asking for help is always a smart first step when struggling!

Enrollment Application: To enroll in AP Psychology, you should complete [this expression of interest](#) and be approved by your current Social Studies teacher and counselor. If you have any further questions, stop by G607 for a chat! :)

Grade(s): 11, 12

Prerequisite: Spanish IV with at least "B-" or with a teacher recommendation

Brief Description: AP Spanish Language and Culture is a rigorous course equivalent to a third year university level language course. The objective of this course is to prepare students for the AP Spanish Language and Culture exam, by continuing to develop their proficiency in the three modes of communication: Interpretive, Interpersonal, and Presentational. In an immersion environment, students read and listen to a variety of authentic materials from all over the Spanish-speaking world. Additionally, they will engage in written and oral analysis and discussion on a wide variety of cultural topics of the Spanish-speaking world, making comparisons to their own communities. Assessments will be geared to the expectations of the AP Spanish Language and Culture Exam.

Text: Pearson Publisher: "AP Spanish, Preparing for the Language and Culture Examination" by José Díaz

Prerequisites: Completion of level IV with a B- or above.

Deciding if AP Spanish Language and Culture is right for you:

AP Spanish is a good a fit for you if:

- You have a strong foundation in Spanish, particularly in written and oral communication skills
- You have a love for the Spanish language and enjoy engaging in conversation with others in Spanish on a variety of contemporary issues
- You are prepared to take risks with your language and challenge yourself to improve your communication skills, both orally and in writing.
- You are an independent and self-motivated learner with good study habits
- You are prepared to commit two or more hours a week to independent practice of the AP tasks required on the AP Exam
- You enjoy comparing the cultural products, practices, and perspectives of peoples of various communities.

Out of class expectations:

- You will be expected to seek out articles and podcasts on current events in the Spanish-speaking world
- You will be making regular presentations to the class on a range of cultural themes
- You are expected to keep a personal journal of weekly current event and cultural theme presentations made by classmates in class
- You will be required to complete regular reflections/reactions and cultural comparisons of material presented in class
- You will be required to complete regular AP task practice activities for homework.

Grade(s): 12

Calculator: TI-Nspire CX CAS

Prerequisite: Senior with a recommendation from your math and English teachers, with at least a "B" in Pre-calculus or an "A" in TFA.

Course Description:

AP Statistics is the high school equivalent of a one semester, introductory college statistics course. According to the College Board, AP Statistics is designed to introduce students to four broad themes: 1) exploring data, 2) sampling and experimentation, 3) anticipating patterns, and 4) statistical inference. In this course, students develop strategies for collecting, organizing, analyzing, and drawing conclusions from data. Students design, administer, and tabulate results from surveys and experiments. Probability and simulations aid students in constructing models for chance behavior. Sampling distributions provide the logical structure for confidence intervals and hypothesis tests. Students use a TI-Nspire graphing calculator, Fathom and Minitab statistical software, and Web-based java applets to investigate statistical concepts. To develop effective statistical communication skills, students are required to prepare frequent written and oral analyses of real data.

AP Statistics is a rigorous course that requires a lot of work in and outside of the class. You are a right candidate for AP Statistics if:

- You do pre-reading before every class and are prepared to have meaningful group and class discussions.
- You pay attention to details
- You are ready to produce convincing and detailed oral and written statistical arguments.
- You are ready to have multiple assessments each week.
- You are not enrolled in too many other challenging AP courses (talk to your counselor!).
- You do not procrastinate and are always caught up on the material taught in class.
- You are prepared to spend 3 to 6 hours (depending on your ability) of work outside of class on AP statistics a week.
- You are willing to seek help during autonomous time if you are struggling. In this situation, you need to be responsible for showing initiative.
- You plan to pursue a higher degree.
- You always complete your homework.
- You love mathematics related courses and writing arguments and explanations about math.

Grades: 11, 12

Prerequisite: 2D Art III, instructor approval

Additional Information: 2D Design and Drawing are two different types of AP portfolios a student may submit, and students may take two years of this course if they wish to submit both types of portfolios.

Brief Description: The AP Studio Art class is a rigorous college-level course designed for students who are seriously interested in the practical experience of art. Students will be accepted into AP based upon review of prior enrollments and recommendation by the art teachers. The goals of the AP Studio Art program are to encourage creative and systematic investigation of formal and conceptual issues. Emphasis will be placed upon having each student make art an ongoing process that involves the student with informed and critical decision-making. Students will develop technical skills and become independent thinkers who contribute to their culture through the making of art. AP Studio Art does not have a written exam, instead students are expected to create a strong 24 piece 2D Design or Drawing portfolio to submit to the College Board in early May. The College Board has established a national standard in performance of the visual arts. Completing the AP portfolio may result in Advanced Placement credit at the institution the student chooses to attend after High School, but does not guarantee it. It will, however, help the student to have a strong portfolio to submit for admissions and scholarship opportunities. The fall semester of the course focuses mainly on developing the Breadth section of the portfolio (which demonstrates the students' proficiency in a variety of media, styles, and subject matter), while the spring semester is dedicated to the Concentration, a sustained investigation of a student-created theme through twelve pieces.

Deciding if AP Studio Art 2D is right for you:

- AP Studio Art 2D is a fast-paced course designed with the end goal of creating a 24 piece portfolio. If you are interested in committing a lot of time and pushing your skills and ideas much further, take the course.
- A typical AP Studio Art class is made up of mostly seniors but juniors may also join if they have completed 2D Art III and have the teacher's approval to join AP.
- AP Studio Art 2D is a good fit for you if:
 - You are a rising junior *or* senior.
 - If you are considering pursuing an art degree in college
 - You have completed 2D Art III and are ready to take on a more challenging, faster-paced course.
 - You have a passion for art and are willing to dedicate a lot of time to pursuing it.
 - You value creativity, originality, taking artistic risks, and exhibit integrity in your work.
 - You are not afraid of learning from constructive feedback.
 - You are prepared to take risks, collaborate with others, and work through struggles to understand challenging concepts.
 - You have developed a strong base of technical skill in a wide range of 2D materials.
 - You are independent and self-motivated and can ask for help when you feel that you're struggling.
- Out of class expectations:
 - Approximately five hours of out of class work time per week depending on your pace of work and how well you utilize class time
 - You should have some materials to make art with at home to continue working on your pieces from class.

Grades: 11, 12

Prerequisite: 3D Art III, instructor approval

Brief Description: The AP Studio Art class is a rigorous college-level course designed for students who are seriously interested in the practical experience of art. Students will be accepted into AP based upon review of prior enrollments and recommendation by the art teachers. The goals of the AP Studio Art program are to encourage creative and systematic investigation of formal and conceptual issues. Emphasis will be placed upon having each student make art an ongoing process that involves the student with informed and critical decision-making. Students will develop technical skills and become independent thinkers who contribute to their culture through the making of art. AP Studio Art does not have a written exam, instead students are expected to create a strong 16-20 piece 3D Design portfolio to submit to the College Board in early May. The College Board has established a national standard in performance of the visual arts. Completing the AP portfolio may result in Advanced Placement credit at the institution the student chooses to attend after High School, but does not guarantee it. It will, however, help the student to have a strong portfolio to submit for admissions and scholarship opportunities.

Deciding if AP Studio Art 3D is right for you:

- AP Studio Art 3D is a fast-paced course designed with the end goal of creating a 16-20 piece portfolio. If you are interested in committing a lot of time and pushing your skills and ideas much further, take the course.
- AP Studio Art 3D is a good fit for you if:
 - If you are considering pursuing an art degree in college
 - You have completed 3D Art III and are ready to take on a more challenging, faster-paced course.
 - You have a passion for art and are willing to dedicate a lot of time to pursuing it.
 - You value creativity, originality, taking artistic risks, and exhibit integrity in your work.
 - You are not afraid of learning from constructive feedback.
 - You are prepared to take risks, collaborate with others, and work through struggles to understand challenging concepts.
 - You have developed a strong base of technical skill in a wide range of 3D materials.
 - You are independent and self-motivated and can ask for help when you feel that you're struggling.
- Out of class expectations:
 - Approximately five hours of out of class work time per week depending on your pace of work and how well you utilize class time.
 - You should have some materials to make art with at home to continue working on your pieces from class.

Grade(s): 11, 12

Additional Information: B or better in current social studies class is recommended. Teacher recommendation is required from a student's previous social studies teacher.

Brief Description: The study of history is an essential part of becoming an educated adult. Studying the history of the United States is particularly important in understanding events in the contemporary world. In this class students will be developing and practicing skills needed through high school, college and beyond. These include reading challenging texts for comprehension, writing clearly and effectively, and using historical thinking skills. While this is a challenging class the expectation is that everyone who puts in the effort will be successful.

Deciding if APUSH is right for you:

- AP US History does **not** require prior AP history experience and you do not need to have taken regular US history.
- A typical APUSH class is made up of a mixture of juniors and seniors. All students who enroll in AP US History should have strong academic performance **or** a sincere passion for history.
- AP US History is a good fit for you if:
 - You are interested in finding answers to important historical and cultural questions.
 - You are a proficient reader and ready to prepare for college level reading.
 - You are ready to actively participate in small group and whole class discussions.
 - You are independent and self-motivated and can ask for help when you feel that you're struggling.
- Out of class expectations:
 - Reading is an essential part of the homework to prepare for this class. Readings will come from the text and from a variety of other sources. The assigned readings are intentionally kept manageable. Reading should take approximately 2 hours total each week, though it may take longer at the start of the year as you become accustomed to the expectations for reading and taking notes.
 - Writing essays is a very important part of demonstrating your understanding. A lot of the work on writing will be done in class but you can expect an essay as a part of each unit.
 - If you are struggling, you will need to seek help from me during autonomous time, before school, or after school. In this situation, you need to be responsible for showing initiative.

Grade(s): 10, 11, 12

Additional Information: B or better in Social Science and English courses is recommended. Strong reading and writing skills are required. Teacher recommendation is required from a student's previous social studies teacher.

Brief Description: AP World History is a year-long course that covers the entire history of the world from the peopling of the world, to present-day. This course is designed not as a memorization course of knowing people, dates, and events, but as understanding how those people and events interact and impact history. The course is divided into six different periods in history and focuses on major themes within each. Students will not only learn history, but they will learn how to implement Historical Thinking Skills. Writing is an integral part of the AP exam and students will learn and practice different styles of essays throughout the year. AP World History has changed to a new testing format similar to APUSH and all of the writing techniques learned in this course can be applied in APUSH.

Deciding if APWH is right for you:

- APWH is very rigorous and is taught at a college level.
- A typical APWH class is made up of a majority of Sophomores, with very few juniors and seniors. Students who enroll in this course should have strong organizational skills, academic performance, and a passion to learn how the history of the world connects with everything we know.
- AP World History is a good fit for you if:
 - You have a passion for history
 - You have strong reading and writing skills
 - You are ready to use critical thinking skills on a regular basis
 - You are prepared to learn completely different ways of writing essays/ reading/ and taking notes
 - You are independent and self-motivated and can ask for help when you feel that you're struggling.
 - You are not enrolled in too many other challenging AP courses (talk to your counselor!).
- Out of class expectations:
 - You will be expected to independently read and take notes on at least one chapter per week, study and utilize relevant vocabulary, and supplement classroom content with recommended primary and secondary sources.
 - Reading for this class typically includes 25-40 pages per week.
 - If you are struggling, you will need to seek help from the teacher during autonomous time, before school, or after school. In this situation, you need to be responsible for showing initiative.
 - It is expected that students will read the first unit of the textbook over the summer.
 - Optional summer reading includes: A History of the World in 6 glasses.