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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](#).

Brief Course Description: Regular Calculus 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 on a few real-life situations and appreciate the power of Calculus theories. Student use technology to reinforce relationships among functions, to confirm written implement experimentation, and to assist in interpreting results.

Calculus covers the same material as AP Calculus AB (which is roughly one semester of a College Calculus I course) but the mastery level on summative assessments is slightly lower.

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

You have met the Calculus requirements if:

- You are a rising junior or rising senior.
- You have completed PreCalculus with a minimum grade of C+.

Calculus could be a good fit for you if:

- You have an interest in developing your algebraic skills and want to learn more about functions.
- You want to pursue math at a high level without the pressure of AP expectations and without needing to take the AP Calculus AB exam.
- You want to learn about Calculus but you already have reached your maximum number of AP classes.
- You are ready to think about mathematical concepts without necessarily needing some immediate applications outside of pure math.
- Doing math homework/problems is actually fun for you, not a chore.
- You have a good 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 2-3 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 a strong attention to detail.
- You are familiar with using a graphic display calculator.

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.

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	

You have met the AP Calculus BC requirements if:

- You are a rising junior or a rising senior.
- You have completed either:
 - a. AP Calculus AB with a minimum grade of B-, or
 - b. Precalculus with a minimum grade of 95% and successful pre-approved completion of KIS independent study learning objectives

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.

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 2. 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 are a junior or senior who enjoyed and did 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 [this enrollment application](#) .

Brief Description: AP Chinese Language and Culture course aims at providing qualified students opportunities to further explore Chinese culture and improve their communicative skills (interpersonal mode, interpretive mode, and presentational mode). In doing so, they develop their language proficiency in listening, speaking, reading, and writing. AP Chinese is a yearlong course consisting of approximately 36 weeks. Instructor conducts the class exclusively in Chinese. Students are required to speak Chinese as much as possible. Various assessments are designed in a regular basis throughout the course to monitor students' progress.

Speaking Students are able to handle successfully a variety of uncomplicated communicative tasks in straightforward social situations. Conversation is generally limited to those predictable and concrete exchanges necessary for survival in the target culture. These include personal information related to self, family, home, daily activities, interests and personal preferences, as well as physical and social needs, such as food, shopping, travel, and lodging. Students tend to function reactively, for example, by responding to direct questions or requests for information. However, they are capable of asking a variety of questions when necessary to obtain simple information to satisfy basic needs, such as directions, prices, and services. When called on to perform functions or handle topics at the advanced level, they provide some information but have difficulty linking ideas, manipulating time and aspect, and using communicative strategies, such as circumlocution. Students are able to express personal meaning by creating with the language, in part by combining and recombining known elements and conversational input to produce responses typically consisting of sentences and strings of sentences. Their speech may contain pauses, reformulations, and self-corrections as they search for adequate vocabulary and appropriate language forms to express themselves. In spite of the limitations in their vocabulary and/or pronunciation and/or grammar and/or syntax, students are generally understood by sympathetic interlocutors accustomed to dealing with non-natives.

Writing Students are able to meet a number of practical writing needs. They can write short, simple communications, compositions, and requests for information in loosely connected texts about personal preferences, daily routines, common events, and other personal topics. Their writing is framed in present time but may contain references to other time frames. The writing style closely resembles oral discourse. Students show evidence of control of basic sentence structure and verb forms. Their writing is best defined as a collection of discrete sentences and/or questions loosely strung together. There is little evidence of deliberate organization. Students can be understood readily by natives used to the writing of non-natives.

Listening Students are able to understand simple, sentence-length speech, one utterance at a time, in a variety of basic personal and social contexts. Comprehension is most often accurate with highly familiar and predictable topics although a few misunderstandings may occur.

Reading Students are able to understand short, non-complex texts that convey basic information and deal with basic personal and social topics to which the reader brings personal interest or knowledge, although some misunderstandings may occur. Students may get some meaning from short connected texts featuring description and narration, dealing with familiar topics.

Enrollment Application: To enroll in AP Chinese, you need to complete this enrollment application and be approved by both your Chinese IV teacher and your counselor.

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.
- AP CSP includes a mix of juniors and seniors. 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 are a rising junior or rising senior
 - 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’re 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>.

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 are a rising junior **or** senior.
 - You have strong reading and writing 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 **watch videos** and complete **practice problems**. There will typically be about 2 hours of this type of homework each week.
 - 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.

Brief Description: AP Language is a junior-year course 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:
 - Are a rising junior.
 - 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 English teacher and take a written, timed writing diagnostic with the AP language teacher in January.

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

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 English Literature & Composition will benefit you no matter what your future holds. Check out these articles to see how AP Literature can benefit you in any major: "[That 'Useless' Liberal Arts Degree Has Become Tech's Hottest Ticket.](#)" "[Philosopher Kings: Business Leaders Would Benefit from Studying Great Writers.](#)" and "[Why Every Tech Company Needs an English Major.](#)"
- AP Lit is a good fit for you if:
 - You are a rising senior.
 - 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!).
 - You are interested in being a well-rounded, well-read individual prepared for any career.
 - You like to discuss texts, current events, big ideas, and THE WORLD.
- 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 each semester, four 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 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 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 AP.

Brief Description: AP Environmental Science (APES) is a rigorous, year-long course that studies the interrelationships between Earth's physical, chemical, and biological systems. Significant labwork 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:

- Because of the academic demands, students must have completed both biology and chemistry to take this course. This requirement means that the great majority of students will be juniors or seniors. The student must also be interested in taking the APES exam. 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 are a rising junior **or** rising senior who 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](#).

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.

Grade requirement:

The requirement for Multivariable Calculus and Linear Algebra is either:

- to complete AP Calculus AB with a grade of 95% both semesters, and successfully complete the AP Calculus AB Independent study during semester 2, or
- to complete AP Calculus BC with a B or better in both semesters, and with a teacher recommendation.

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.

Brief Description: AP Physics 1 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 1 is right for you:

- AP Physics 1 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 1 their senior year; students who do not feel confident enrolling in AP Physics 1 during their junior year sometimes take this path.
- A typical AP Physics 1 class is made up of a mixture of juniors and seniors. All students who enroll in AP Physics 1 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 1 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](#).

Brief Description: AP Physics 2 is best thought of as a **continuation of AP Physics 1**. 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 2 are seniors who took AP Physics 1. These are students who will likely pursue fields in the sciences. Students who were successful in AP Physics 1 their junior year are encouraged to take AP Physics 2 their senior year if they have interest.

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

Prerequisite:

Geometry, Algebra 2

Brief Description: Precalculus is best thought of as a continuation of Algebra 2 as we continue to examine characteristics of different families of functions and analysis of various families of functions. Including polynomial, rational, logarithmic, and exponential functions. In addition to a *thorough* exploration of trigonometry, we will also discover conic sections, operations with matrices, and sequences and series.

Deciding if Precalculus is right for you:

Typically, students who enroll in Precalculus are sophomores or juniors who took Algebra 2 in the prior year. These are students who will likely pursue fields in the math and sciences with plans to move on to one of our calculus courses.

- Is Precalculus a good fit for you?
 - 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.

 - Out of class expectations:
 - You will be expected to watch videos and complete practice problems. There will typically be about 1 hour of this type of homework each 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 and show initiative.
-

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! :)

Brief Description: AP Seminar is the first component to the two-year AP Capstone program. 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 in AP Seminar apply to all other classes now and in the future, including science, history, and English. A demanding college-level course for students who are motivated to learn and grow as young adults.

Deciding if AP Seminar is right for you

Typically, students who take AP Seminar...

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. You cannot be quiet, reserved, or afraid 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.

Course Description:

Statistics is a course for students who are interested in statistics but do not want the same pressure and workload from taking an AP course. 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 will use a TI-Nspire graphing calculator to develop effective statistical communication skills, students are required to prepare frequent written and oral analyses of real data.

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

- You are a rising senior.
- You want to know the real applications of mathematics.
- You are ready produce convincing and detailed oral and written statistical arguments.
- You are prepared to spend 1 to 3 hours (depending on your ability) of work outside of class on statistics a 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.

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 are a rising senior.
 - You received a B in pre-calculus and a teacher recommendation.
 - 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.
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Brief Description:

The course is dedicated to a variety of subjects that present math as a whole, not as a compartmented series of classes. Students are asked to be more autonomous than in previous classes and are expected to understand the bigger picture in mathematics. Mathematics is a subject that has been developed by real people. Mathematics is a tool that can be used in real life, and it is also a body of knowledge that can be reflected upon. These grounds are an excellent philosophical setting for reflection.

Also, in our increasingly technological society, it is also obvious that mathematics is more valuable if it includes technology and if students can use technology well. Students will benefit from a broader knowledge of mathematics related to its applications, and need to be proficient in the use of graphing display calculators and computer softwares related to mathematics.

Finally, Trigonometry and Functional Analysis is a year long course that provides students with the fundamental skills necessary to further math courses at KIS.

Grade requirement:

The requirement for Trigonometry And Functional Analysis is Algebra 2 credit

Content:

Students in TFA will start with solidifying the foundations of their learning in previous high school mathematic classes. Students will be working their logical skills, number proficiency and concept flexibility. Students will also be preparing for further courses at KIS. We will give students a head start to be ready to join AP Statistics, Statistics or Precalculus as they continue their progress in math at KIS.

Students will also use mathematics as an application to real-life, including Financial Math, Game design, Mathematical softwares, Labs, etc.

Work:

Trigonometry and Functional Analysis is a good fit for you if:

- You are interested in using math in a way that requires more logical thinking and applications than replication of skills
- You want to reinforce your skills and be better prepared for further math courses at KIS
- You are hardworking and determined, and you like collaboration
- You have already selected classes that will require a lot of work out of class
- You are willing to spend 30-40 minutes on homework assignments each week

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 a rising junior **or** rising senior.
 - 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.

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 APUS and all of the writing techniques learned in this course can be applied in APUS

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.
- Students who take this course are expected to take the APWH Exam in May.
- AP World History is a good fit for you if:
 - You are a rising sophomore, or junior/ senior who has 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.