

HIGH SCHOOL PROGRAM PLANNING GUIDE

2019–20



USING YOUR PROGRAM PLANNING GUIDE

At Singapore American School, we believe that every student is unique. With access to over 180 college-preparatory, support, and college-level courses, SAS students can pursue pathways that meet their unique needs and interests. We are committed to assisting students with developing programs of study that meet their academic and college goals, lead to healthy lifestyles, and afford ample opportunity for participation in meaningful activities. This guide provides information about the courses typically offered along with information on how to select and complete the online registration process.

This guide also contains information about the minimum SAS graduation requirements, the credits recommended by colleges, and the wide range of opportunities available at our school. As students begin choosing courses for next year and beyond, please keep in mind that **students will perform best when a program is selected that includes courses that are personally interesting and are appropriately challenging.**

Current SAS students are asked to choose courses each spring for both semesters of the following school year. Students new to SAS will meet with a counselor to select courses after enrollment. All students and families are responsible for taking the time to fully understand what a course will cover, whether there are any prerequisites, and whether or not there are any expectations beyond what might be considered "normal" for a course, such as additional labs, rehearsals, research, or readings.

All members of the SAS faculty are available to assist students and families as courses are selected for the next academic year. Please feel free to contact us. We look forward to another fantastic school year.

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TABLE OF CONTENTS

| | |
|---|--------------------|
| Noteworthy in 2019–20..... | 1 |
| General Information..... | 3 |
| English..... | 8 |
| Social Studies..... | 14 |
| Mathematics..... | 20 |
| Science..... | 25 |
| World Languages..... | 31 |
| Technology, Electives, & Capstone (TEC)..... | 36 |
| Visual & Performing Arts..... | 46 |
| Physical Education..... | 55 |
| Health/Wellness..... | 59 |
| Quest..... | 60 |
| Advanced Studies..... | 64 |
| Other Courses..... | 70 |
| • Learning Support..... | 70 |
| • Supervised Study Program..... | 71 |
| • Interim Semester..... | 71 |
| Flexible Learning Options..... | 72 |
| • Summer Semester..... | 72 |
| • School Year Abroad..... | 72 |
| College Preparation..... | 73 |
| Appendix I: Course Selection Instructions..... | 76 |
| Appendix II: Course List..... | 77 |
| Appendix III: Advanced Studies - Overview of Course Offerings..... | 78 |
| Appendix IV: Advanced Studies - AP Exam & Syracuse University Credit..... | 81 |
| Appendix V: Four-Year Planning Chart..... | 83 |

NOTEWORTHY IN 2019-20

The 2019–20 school year will bring several changes to Singapore American School. We are excited to offer new courses, new programs, and additional learning options to students. While details regarding many of these changes are included in other sections of this guide, the following are some of the highlights.

ADVANCED STUDIES

Advanced Topic (AT) courses and Advanced Placement (AP) courses together form our Advanced Studies offerings at SAS. These are college level courses that have been approved by the College Board or vetted through a rigorous process at SAS to ensure quality, relevance, and a greater focus on our desired student learning outcomes (DSLOs). We now proudly offer over 40 Advanced Studies courses. These exceptional learning opportunities are detailed in the Advanced Studies section of this guide.

For 2019–20, we are pleased to introduce a number of additional Advanced Topic courses: AT English: Literature, AT Geography & Field Research, AT Psychology, and AT Historical Inquiry & Research. As a complement to our Advanced Topic courses, students have access to over 20 Advanced Placement (AP) courses and AP examinations. See Appendix III and IV for an overview of the courses and exams offered.

CO-CREDITING WITH SYRACUSE UNIVERSITY

We are very happy to be continuing our co-crediting partnership with Syracuse University. The Syracuse University Project Advance (SUPA) program is a concurrent enrollment program that links the university with secondary schools. Through this partnership, qualified students who are enrolled in select Advanced Topic courses have the opportunity to concurrently enroll in Syracuse University courses for Syracuse University credit. During the 2019–20 school year, SAS students taking AT Computational Physics, AT Economics: Globalization, and AT Psychology are eligible for concurrent enrollment in Syracuse University courses. Please see the descriptions for these AT offerings for additional course-specific information.

For more information regarding the Syracuse University Project Advance program, please see the Advanced Studies section of this guide. To determine whether participation in this program is a fit for your long-term goals, please speak with your counselor or the Advanced Studies Coordinator.

ADDITIONAL SELF-PACED COURSES OFFERED

As we continue to personalize learning in meaningful ways at SAS, we are pleased to announce that we are expanding self-paced options. Sections of AP Economics have been operating in a self-paced format for a number of years at SAS. In these sections, students have increased autonomy and have the ability to progress more flexibly through course content and requirements. While this format will not be a fit for every student, it provides students with increased agency and additional flexibility to manage their own time. In 2019–20, we will offer sections of self-paced AP Chemistry if there is sufficient student interest. Regular sections of AP Chemistry will continue to be offered.

QUEST PROGRAM OPEN TO JUNIORS & SENIORS

We are thrilled that the Quest program will be graduating its third cohort of students as part of the Class of 2019!

Quest is an exciting and innovative year-long program for juniors and seniors at SAS. Quest provides structure and time for students to pursue their intellectual curiosities and personal ambitions. Instead of taking a traditional course load, students engage in interdisciplinary projects and institutional partnerships (internships) that are tailored to their interests. The program is designed to allow flexibility in scheduling so that students have the time to explore, innovate, and develop skills needed in college and various careers. Students in Quest complete rigorous academic work and work with experts in various industries which can differentiate them from other students in the college application process.

Students may apply to participate in Quest during either their junior or senior years. Please see the Quest section of this guide for more information.

SEAL OF BILITERACY NOW OFFERED

We are proud to announce that students in the SAS graduating classes of 2019 and beyond will be eligible to earn the Seal of Biliteracy. The Seal of Biliteracy serves to formally certify attainment of biliteracy and is recognized on high school diplomas. It is a statement of accomplishment that helps to signal a student's linguistic and cultural readiness not only for career and college, but also for engagement as a global citizen. As of December 1, 2018, the Seal of Biliteracy was already being awarded by high schools located in 35 US states.

In order to earn a Seal of Biliteracy at SAS, students must demonstrate via school-designated external assessments that they have attained a minimum of Intermediate High proficiency in four skills (reading, writing, listening, and speaking). For more information, please see the World Languages section in this guide and our website (<https://www.sas.edu.sg/academics/high/seal-of-biliteracy>).

- After carefully considering the needs of students, the English department will be offering a new year-long course that combines "Reading, Writing, and Publishing in a Digital World" and "Communications." This is the first year-long English course that has been offered to juniors and seniors outside of our Advanced Studies program. We expect the course to be a desirable option for 11th- and 12th-grade students who might enjoy the added stability of having the same teacher throughout the year as well as for students interested in learning how to think critically, respond thoughtfully, and create responsibly in the digital age.

NEW COURSES FOR 2019-20

- AT English: Literature
- AT Geography and Field Research
- AT Psychology
- AT Historical Inquiry and Research

CHANGED COURSES FOR 2019-20

- We are proud to be providing students with more flexibility than ever before in our mathematics program. Beginning in 2019-20, we will begin offering a semester-long AP Calculus BC course for students who have already completed AP Calculus AB. We will also begin offering semester-long AT Multivariable Calculus and AT Linear Algebra courses. These new semester offerings complement our two existing semester offerings (AT Finite Mathematical Modeling and AT Post-Euclidean Geometry), giving students the ability to customize their math course pathways in a number of new ways.

GENERAL INFORMATION

HIGH SCHOOL DAILY SCHEDULE

| TIME | CLASS/ACTIVITY |
|---------------------|-----------------|
| 8:00 - 8:30 AM | see table below |
| 8:35 - 9:55 AM | Block 1 |
| 9:55 - 10:15 AM | Break |
| 10:15 - 11:35 AM | Block 2 |
| 11:35 AM - 12:10 PM | Lunch |
| 12:10 - 1:30 PM | Block 3 |
| 1:30 - 1:40 PM | Break |
| 1:40 - 3:00 PM | Block 4 |

WHAT HAPPENS FROM 8:00 TO 8:30

| DAY | TEACHERS | STUDENTS |
|-----|-------------------|-------------------|
| Mon | Advisory Planning | Flex & Assemblies |
| Tu | Advisory | Advisory |
| Wed | PLC | Flex & Assemblies |
| Th | Advisory | Advisory |
| Fri | PLC | Flex & Assemblies |

GRADUATION REQUIREMENTS

| Required Courses in Specific Academic Areas | Minimum Credits | Recommended for College |
|--|-----------------|-------------------------|
| English | 4.0 | 4 |
| Mathematics* | 2.0 | 4 |
| Science | 2.0 | 3-4 |
| Social Studies** | 2.0 | 3-4 |
| Language (level requirement)*** | Intermediate** | 3-4 |
| Visual/Performing Arts | 1.0 | 1 |
| Physical Education | 1.5 | |
| Health Education | 0.5 | |
| Catalyst Project (Begins with Class of 2018) | 0.5 | |
| Minimum Total Credits**** | 24.0 | |
| <p><i>Clarifying Details</i></p> <p>*Math: All students must earn two math credits, one of which must be at the level of Geometry or higher.</p> <p>**Social Studies: US citizens (not dual citizens) are required to earn one credit in U.S. History.</p> <p>***Language: Two years of study of the same foreign language (e.g., Chinese, French, or Spanish at the Novice, Intermediate level) or an equivalent proficiency in another language is required.</p> <p>****Minimum Credits: The minimum credits listed above are the absolute minimum number required to earn an SAS diploma. Completing the minimum credits may not be sufficient for admission to university. Focus should be on the "Recommended for College" column.</p> <p>Interim: Students must participate in an Interim Semester course each year they are at SAS – one of which must be a service course.</p> | | |

SCHEDULE CHANGES

Please select courses carefully! Since returning students have ample opportunity in the spring to select and adjust their course requests, students must remain in their assigned courses for the first two days of the school year in August. This allows counselors to focus on assisting students who are new to SAS. Following this two-day moratorium, students who have a schedule problem are allowed to meet with a counselor and request changes. The add/drop period ends after the eighth school day. All requests must be for educationally sound reasons and approved by a counselor. Requests for changes must move a student from a larger section of a course to a smaller one. Students are also required to speak with their parents about proposed changes. At the beginning of the second semester, except for newly arriving students, no schedule changes can be made on the first day back in January. The add/drop period for second semester courses concludes on the fifth day of the semester.

Seniors must list their courses for the entire senior year when they apply to colleges. Should a change in a second semester course be made, colleges must be notified of the change. Should it appear that a student is choosing an easier load in the final semester, it can reduce the student's chances of admission. Seniors are advised to select their courses carefully for the entire school year and plan to remain in them. The Student Handbook has a full explanation of SAS drop/add policies.

ADVISORY & HOUSE SYSTEM

Through our Advisory and House programs, we seek to ensure that every student is known, cared for, and advocated for; to make our big school feel small; to support students with solving real-world problems; to strengthen students' sense of identity and belonging; and to recognize students' individual learning experiences and talents.

Each advisory is composed of approximately 10 to 12 students in the same grade who are assigned to a faculty advisor during their first year at SAS. In most cases, students will stay with the same advisor until they leave SAS. Advisory groups meet every Tuesday and Thursday morning from 8:00 AM to 8:30 AM. Each advisory is also assigned to a house that includes approximately ten advisories per grade level. Houses are student-led and house representatives from each grade level form the student government. These students serve as an important voice of the student body, and their duties include but are not limited to organizing house assemblies, all-school pep rallies, spirit activities, and student forums with faculty and administration.

Advisory and house meetings focus on improving students' interpersonal and intrapersonal skills, their cultural competence and their character. These meetings are structured around the content and behaviors needed to: best ensure the social/emotional health of all students; improve academic success; and prepare students for the inevitability of change in their lives, including the transitions to high school, college, and adulthood.

The Advisory program strives to create an atmosphere of trust where students feel safe to discuss a wide range of academic and personal matters in a setting that helps to balance the rigorous academic demands of the SAS experience.

THE SAS CATALYST PROJECT

Catalyst is a culminating experience where students apply their academic knowledge to real situations that are personally applicable to them. This entails using different skills than are sometimes required in regular academic courses at SAS. Catalyst is deliberately designed for students of all abilities and interests, and it is customized for all students to experience a successful project process. Further, grading is

based on process and not product, so what they choose for their project is less important than how they conduct their work. The successful completion of the Catalyst Project is a graduation requirement. It ensures that every SAS graduate will leave our school having immersed themselves in a personalized, experiential, educational experience that is essential for their future.

FREQUENTLY ASKED QUESTIONS

What is the AP Capstone Diploma?

To receive the AP Capstone Diploma, students must successfully complete both AT Seminar and AT Research & Catalyst. In addition, they must earn a score of 3 or higher on both the AP Seminar and AP Research exams, and earn a score of 3 or higher on four additional AP exams of their choosing. A student will typically take AT Seminar in the sophomore or junior year, followed by AT Research & Catalyst.

Where can I learn more about the rationale behind the Advanced Studies program?

On our online portal, a comprehensive frequently asked questions webpage is available (http://www.sas.edu.sg/Advanced_StudiesFAQ) to help answer any questions you may have about our Advanced Studies offerings. We also encourage students to bring questions to their high school counselors. They will gladly help provide clarity and are eager to help any family as they plan a course of study with their child.

To whom does the Advanced Placement credit limit apply?

Students graduating in 2021 or in subsequent years may earn up to seven (7.0) year-long-equivalent AP credits during their high school careers.

How many AP courses will my child be able to take? What does the AP credit limit mean for access to AP exams?

To ensure students enroll in a balanced selection of courses, the school has capped the total number of Advanced Placement credits that a student may earn at SAS. Starting with the graduating class of 2021, students may earn up to seven (7.0) year-long-equivalent AP credits during their high school careers.

In 2019-20, we will offer a combined total of over 40 Advanced Placement (AP) and Advanced Topic (AT) courses within the Advanced Studies program.

It is possible for students who plan appropriately to take more than seven AP examinations - in some instances, as many as 15 AP examinations.

There are a number of AT courses that permit enrolled students to sit the associated AP exam.

- AT Environmental Science & Fieldwork (AP Environmental Science exam)
- AT Computational Physics (AP Physics 1 exam)
- AT Seminar (AP Seminar exam)
- AT Research & Catalyst (AP Research exam)
- AT English: Literature (AP English Literature exam)

Furthermore, we offer six half-credit AP courses. Often, students will take two semesters of AP Government & Politics, two semesters of AP Economics, or two semesters of AP Physics C. These students may sit two exams:

- AP Government and Politics: Comparative
- AP Government and Politics: US
- AP Macroeconomics
- AP Microeconomics
- AP Physics C: Electricity & Magnetism
- AP Physics C: Mechanics

How can I fulfill my Catalyst project graduation requirement?

There are three ways that students can fulfill their Catalyst graduation requirement. These paths are described below and summarized in the table that follows. Regardless of the path chosen in completing their requirement, students will:

- receive explicit instruction and feedback on our desired student learning outcomes (DSLOs);
- explore, innovate, encounter real-life challenges, learn from occasional failures or

setback, devise solutions, and reflect deeply on who they are as learners;

- learn valuable skills on how to build professional networks and collaborate with mentors;
- manage time to see a project through from start to finish;
- feel better prepared to be successful in college, career, and civic life.

AP Capstone, Quest and the SAS Catalyst program. How are these different?

Although all three fulfill the Catalyst graduation requirement, there are some significant differences.

AT Seminar and AT Research & Catalyst (AP Capstone)

AT Seminar and AT Research and Catalyst are both required to complete the AP Capstone. AT Seminar is a year-long, inquiry-driven course that engages students in cross-curricular conversations that explore real-world topics and issues from multiple perspectives. After successfully completing AT Seminar, most of our students enroll in the year-long AT Research and Catalyst. AT Research and Catalyst asks students to deeply explore an academic topic, problem, or issue of individual interest with the expectation of producing both a university level research paper and a meaningful Catalyst Project. As these courses have fully adopted the AP Capstone curriculum, students will be eligible to take the AP Seminar and AP Research exams. (Note: Students who do not wish to enroll in AT Research and Catalyst after AT Seminar would enroll in the SAS Catalyst Project semester-length course to fulfill their Catalyst graduation requirement. In these instances, students would not be eligible for the AP Capstone Diploma.)

Quest

Quest is a full-year, all-day, immersive program that supports students in pursuing their curiosity and passion. Instead of taking traditional courses, students earn six credits through interdisciplinary projects that are personalized to their interests. The year culminates with a junior or senior project thesis paper, thesis talk, and thesis defense; successful completion of which fulfills the Catalyst graduation requirement.

The SAS Catalyst Project

The Catalyst Project is a personalized course where students work with teachers who act as guides as students design, plan, and complete interest-based projects. Students focus on producing a meaningful outcome and are encouraged to dive deep into relevant content and knowledge. This course is for everyone – the program is built to inspire and assist students whether they already have a project idea or not. Optionally, the Catalyst Project can be extended into a second semester, or become a “hyper-Catalyst,” because the student’s project requires greater resources and time.

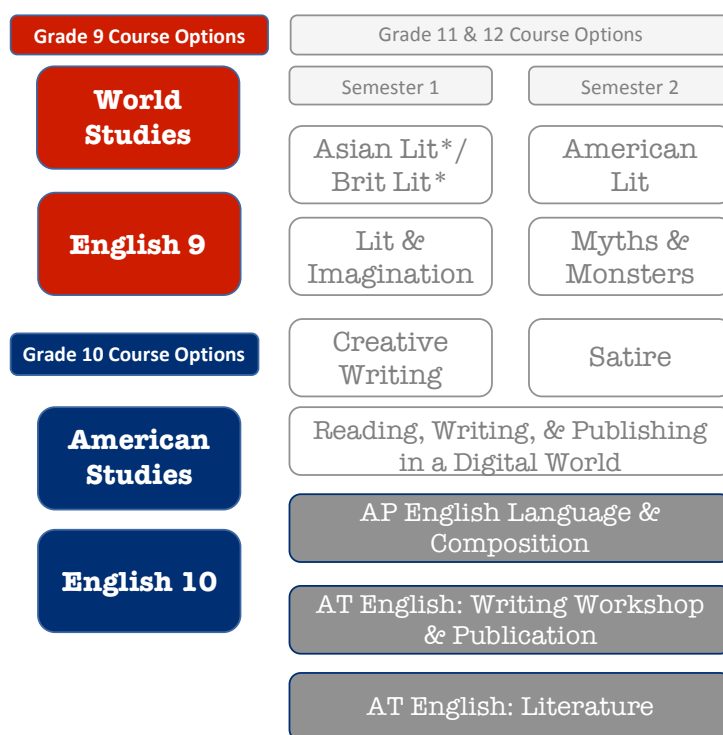
THREE WAYS TO FULFILL THE CATALYST GRADUATION REQUIREMENT

| SAS Catalyst Project | AT Research & Catalyst | Quest |
|--|--|---|
| <ul style="list-style-type: none"> Students earn their graduation requirement through this personalized course (one semester is the minimum requirement) Prerequisite: None. This course is accessible to everyone in their junior or senior year Note: Optionally, students may extend their Catalyst experience by taking the course for a second semester or by enrolling in a hyper-Catalyst (hyper-Catalyst is by application) | <ul style="list-style-type: none"> Students earn their Catalyst graduation requirement through this year-long AT course Prerequisite: Students need to successfully complete AT Seminar to complete their Catalyst requirement through AT Research & Catalyst Note: In addition to fulfilling their Catalyst requirement, students who successfully complete AT Seminar and AT Research & Catalyst are eligible to earn the AP Capstone Diploma | <ul style="list-style-type: none"> Students earn their Catalyst graduation requirement through their fully personalized, all-day, year-long participation in the Quest program Prerequisite: Enrolment to the Quest program via application Note: Quest is an immersive program; students earn credits by pursuing interdisciplinary projects that are personalized to their interests |

ENGLISH

The English curriculum focuses on reading, writing, speaking and listening, research, and language. Each area will be assessed in every English course in various ways, and skills will be revisited and refined over the course of the four-year program. Students must enroll in an English class every semester they attend SAS. All ninth-grade students must take World Studies or English 9, while tenth-grade students must take American Studies or English 10. Upperclassmen may opt for any of the following courses during the eleventh- and twelfth-grade years: AP English Language, AT English: Literature, AT English: Writing Workshop & Publication, or the junior/senior option courses. Please note that enrolling in some of these courses requires students to first meet stated prerequisites.

While all of the courses can be used to fulfill the four-credit SAS English graduation requirement, please note that there are some that do not meet the English requirements set by some outside organizations. The US National Collegiate Athletic Association (NCAA) reviews core courses at all high schools and makes an independent assessment of whether they are considered substantially comparable to a traditional core course. If you are a talented athlete who could potentially play a sport in a US college, be aware of the non-traditional SAS English courses that are not certified by the NCAA.



*Courses offered alternating years.

FAQ: Should a ninth grader choose English 9 and World History or the combined double-block World Studies course?

English 9, World History, and World Studies each challenge students to dive more deeply into covered content knowledge and empower students to make meaningful connections across disciplines. As a double-block course, World Studies meets every day with the same teacher. English 9 and World History each meet every other day. For students enrolled in World Studies, transcripts will include a single grade for World Studies. For students enrolled in English 9 and World History, transcripts will include two independent grades. Whether a student elects to take World Studies or English 9 and World History, the student will need to engage thoughtfully with content and master the skills of speaking persuasively, writing effectively, and reading analytically. Students will be expected to consistently research and share their perspectives in collaborative environments. The skills, methods, and thinking emphasized in English 9, World History, and World Studies will prove beneficial when students are asked to choose and develop an interdisciplinary SAS Catalyst Project. Both pathways will adequately prepare students for higher level social studies and English courses (Advanced Studies).

World Studies (English 9/World History)

ID: 41005 Grade: 9 Length: Year

*Credit: English/Soc Studies (2)**Prerequisite: None**Note: Double block/credit in English and History*

This interdisciplinary course is a thematic study of the human experience through the lenses of history, sociology, economics, civics and literature, with a focus on skills development. It meets daily, earning students both an English and a Social Studies credit upon completion. Students will read critically, analyzing historical texts alongside complementary literary texts organized by the conceptual frameworks of identity, power, globalization and revolution. Students will develop their argumentative, informative, and narrative writing skills and pursue research projects of personal interest. Through these projects, students will develop questions, read and think like a historian, evaluate sources, and communicate ideas. They will also develop their vocabulary using the individually levelled program, Membean, and refine their syntax through the study of a variety of sentence constructions. Students are expected to participate fully in class discussions, work in small groups, and make formal presentations, with a focus on persuasive speaking skills. They will be challenged to demonstrate the development of their skills and understandings in final culminating projects.

English 9

ID: 41012 Grade: 9 Length: Year

*Credit: English**Prerequisite: None*

English 9 is a year-long survey course which focuses on building a strong foundation of skills as well as an appreciation of literature and language through thematic units. Over the course of the year, students will write for a variety of purposes (to analyze, to inform, to reflect, to convince, and to narrate) and read a variety of texts (from novels, plays, poetry, and short stories to non-fiction). As members of the class community, students will also practice and refine their discussion and presentation skills to both build and share their understandings. Finally, language study in English 9 allows students to refine their knowledge of vocabulary through word study and syntax through sentence subordination and coordination techniques in order to refine their personal writing styles.

American Studies (English 10/US History & Government)

ID: 41014 Grade: 10 Length: Year

*Credit: English/US History (2)**Prerequisite: None**Note: Double block/credit in English and U.S. History & Government*

This course is a thematic study of the American experience through the lenses of history and literature, with a focus on skills development. Through the thematic units "American Values," "All Men are Created Equal?," "The American Dream," and "Conflicts and Resolutions," students will explore critical issues, individuals and turning points in the history of the United States of America. Students will analyze the extent to which ideologies, people, literature and events developed and shaped both American history and its contemporary issues. Students will be challenged to think critically and to make thoughtful connections as they draw on a variety of resources to understand the American experience. This interdisciplinary course will meet every day, and students will earn both an English 10 and a U.S. History & Government credit. Throughout the year, students will develop their writing in a variety of genres (e.g., argument, narration, analysis, synthesis), responding insightfully to both literature and history. They will also pursue course-related areas of interest for their research projects. Accordingly, students will critically read a variety of nonfiction, fiction, drama, and poetry reflecting the American Experience. In addition to their in-class reading, students will be encouraged to read widely outside of class in order make connections. The course will require participation in class discussions, collaborative work in small groups, and several formal presentations, with a focus on persuasive speaking skills. Language usage and mechanics instruction will focus on the problems evident in the students' writing. Students will also continue to develop skills in visual literacy by critically viewing documentaries and films.

English 10

ID: 41013 Grade: 10 Length: Year

*Credit: English**Prerequisite: None*

English 10 is primarily a survey of American Literature in which students are asked to think critically and reflect on two key questions: Who or what is an American? And, is the American Dream a myth or reality? Instruction and assignments are

focused on improving all aspects of language, moving students toward more sophisticated understanding and expression. Students read a variety of fiction, nonfiction, and poetry, from classic texts such as *The Great Gatsby*, *The Crucible*, and *A Raisin in the Sun*, to more contemporary works like *Outliers* and the young adult novel, *The Hate U Give*, with reading tasks that push students beyond basic comprehension into critical reading. The course emphasizes the discussion of literature and shared inquiry to further students' understanding of themes that surface through the reading. Students will further develop skills in critical observation and creative representation by participating in reconstituting various genres of related literature in order to construct their own creative works. The form and structure of short essays are stressed through rhetorical and literary analyses and informative, narrative and argumentative pieces, including a focus on revision. Instruction on language usage and mechanics focuses on students identifying and correcting problems evident in their writing, as well as the development of sophisticated sentence fluency and syntactic variety.

JUNIOR/SENIOR OPTIONS

The junior and senior options continue the development of skills and intensive study of literature of a college preparatory English sequence. These courses cover diverse bodies of literature from various periods and cultures. All of the courses develop writing, reading, viewing, speaking, listening and technology skills. Please note that some options are offered on a two-year, rotating basis; see course descriptions for details.

Writing – Students will compose a variety of writing assignments, such as personal essays, literary analysis, compare and contrast essays, reviews, journal entries, and character sketches. They will be encouraged to develop an authentic voice and sense of audience. Students will revise pieces of writing, concentrating on content and organization, and edit to improve diction and mechanics. Students will participate in peer critiquing and editing.

Speaking and Listening – Students will speak in a variety of contexts: speeches and oral presentations, large and small group discussions, dramatic readings, and/or readers' theater activities.

Reading and Viewing – Students will read a

significant body of literature appropriate to the focus of the course.

JUNIOR/SENIOR SEMESTER I OPTIONS

Creative Writing

ID: 41042 Grade: 11–12 Length: Semester I

Credit: English

Prerequisite: None

This semester course is designed for students who wish to explore creative writing, to develop an individual writing voice, and to learn first-hand how creative writers work. Using a workshop format, both in class and online, students will hone their collaboration skills as they survey specific forms of creative writing, develop a peer community of writers to critique and support each other, and create an individual portfolio of creative work. Students will have opportunities to submit their works to outside publications and select and perform their own works for a student-developed public reading at the end of the semester. While this course is not required for Advanced Topic Writing Workshop and Publication, it does serve as an excellent foundation and introduction to the creative writing process.

Literature and the Imagination (Science Fiction)

ID: 41011 Grade: 11–12 Length: Semester I

Credit: English

Prerequisite: None

Students in this course will study the three stages of Science Fiction: Gothic/classic science fiction period (1818 – 1926); the modern period (1926 – 1960s); and the contemporary period (1960s – present). Through the study of the literature from these three periods students will examine the philosophical (ethical), scientific, and political ideas developed in science fiction literature. Key ideas include: the ethics of science and the responsibility of the scientist, the conflict between man and technology, man's relationship to nature, the individual against society, mankind meeting alien species, social problems highlighted in science fiction literature and film, and how science fiction questions what it means to be human. Students will also explore the relationship of science fiction literature to the novel and film. Consequently students will analyze both written text and film. The variety of science fiction writers includes H.G. Wells, Mary Shelley, Ray Bradbury,

and P.D. James.

Asian Literature: An East-West Perspective

ID: 41019 Grade: 11–12 Length: Semester I

Credit: English

Prerequisite: None

Note: Offered in 2019-20. Will not be offered in 2020-21

This course may be of interest to students who are ready to explore the ideas of traditional and modern Asian culture as they appear in literary texts, both in translation and in English. Identity, and how one establishes a cultural identity, or “where they are from” is also a central idea of the course, and is reflected in several of the readings. For this reason the course may be of particular interest to “third-culture kids.” The skills addressed and expected will include reading informational text, close reading of difficult text, discussion and exploration of ideas, presentation of ideas, writing literary analysis, collaboration, and reflections on thematic connections between texts. A specific unit on Singaporean writing, both fiction and non-fiction will be covered in order to increase students’ cultural competence and understanding of the country in which they live.

JUNIOR/SENIOR SEMESTER II OPTIONS

Contemporary American Literature

ID: 41008 Grade: 11–12 Length: Semester II

Credit: English

Prerequisite: None

Over the course of one semester, Contemporary American Literature explores short stories, graphic novels, novels, nonfiction, poetry, and film from 1963 through the present. Students who want to glimpse into modern American culture and discuss controversial perspectives, voices, and values will enjoy this course. Skills practiced in the course include writing comparative essays, researched arguments, and literary analysis responses, reading and creating graphics, translating text to graphics, participating in literature circle discussions, and presenting critical lenses within a novel. The course culminates with a personalized research project that demonstrates the skills learned throughout the semester with a contemporary text.

World Literature: Myths and Monsters

ID: 41017 Grade: 11–12 Length: Semester II

Credit: English

Prerequisite: None

The monster is a figure as old as literature itself. From the myths of the Greeks to the Biblical Leviathan, monsters of various kinds have roamed the landscapes of our imaginations. This course asks, what is a monster? Why do people seem fascinated with the grotesque, the outcast, and the evil? How are monsters portrayed in literature and other art forms? We will examine novels, stories and films that feature classic and contemporary visions of vampires, demons, ogres and perhaps the most frightening monster of all - mankind. Students should expect to work both independently and with peer groups to examine readings and explore ideas. The course will require development of skills in literary analysis, close reading of challenging text, discussion and exploration of philosophical ideas connected to the literature, as well as research and presentation of information.

Studies in Satire

ID: 41022 Grade: 11–12 Length: Semester II

Credit: English

Prerequisite: None

This semester course is designed for students who wish to explore and analyze a variety of satire throughout the ages to clarify just how satire works. Throughout the semester, students will focus on developing the following skills: explanatory writing, presentation, argument writing, and close reading. Students will even get a chance to try their hand at writing their very own satire. Thus, students will begin by briefly discussing several approaches to explaining the basic concepts of satire. These efforts seek to explain satire’s long and successful run as a literary genre and to clarify just how satire works. After establishing a critical lens through which to view satire, students will study a variety of satirical texts ranging from classical to more contemporary examples. Overall, the course seeks to enhance students’ critical thinking skills by closely analyzing the criticisms inherent in works of satire.

JUNIOR/SENIOR FULL-YEAR OPTIONS**Reading, Writing, and Publishing in a Digital World**

ID: 41025 Grade: 11–12 Length: Year

*Credit: English**Prerequisite: None*

Note: This course was previously a semester-length course, which has now been combined with Communications into a year-long course. Students who have taken Read, Write, Publish or Communications previously are not eligible to take this course for credit.

This year-long course will examine the ways that the Internet has fundamentally changed the ways we communicate, altering the ways we think, speak and write about our world. Through semester one, this course aims to look at intellectual histories of past and contemporary media in order to help students frame how they think, read, write, speak and publish today. Students read classic and contemporary literature to reflect upon how our personal, social and national narratives are evolving. Of central focus in this course is audience. Why do we acquire and publish digital content? With so much power to disseminate descriptions, expositions, arguments and stories comes great responsibility. Students will critically analyze, evaluate, write, and speak using digital mediation, exploring a wide variety of genres and forms. During semester two, this course returns to and focuses upon the most innate, human medium: oral communication. Students will learn and practice real-time, interpersonal communication skills. They will study the rhetoric of Socrates, Aristotle and Cicero to provide a solid foundation for speech construction and delivery. The course will culminate with students doing a deep dive into a technology-related area of their choosing and performing a multimodal presentation.

AP English Language and Composition

ID: 41028 Grade: 11–12 Length: Year

Credit: English

Prerequisite: Semester I grade of B+ or higher in English 10/American Studies is required to select this course in 11th grade. Students with a Semester I grade of B in English 10/American Studies or a Semester I grade of A+ in English 9/World Studies may seek an override which requires approval from current English teacher, counselor, and English department chair..

Note: This course has a grade point weighting of 0.5.

AP English Language and Composition is a university-level course in which students read and write for a variety of rhetorical purposes. Over the course of one year, students will learn skills of rhetorical analysis, argument, and argumentative synthesis. Texts for the course vary and are drawn from any rhetorical situation from the last four centuries, requiring students to respond to both current controversies and enduring philosophical questions. Juniors planning to take AP Language and Composition are cautioned: successful completion of the course requires a much greater effort and is significantly more demanding than English 10. Students best suited to this course are avid, proficient readers, attuned to current events, and interested in understanding the power of language to shape our identities, our perceptions, and our world. Students will be prepared for and will be strongly encouraged to sit for the AP exam in May.

AT English: Writing Workshop and Publication

ID: 41046 Grade: 11–12 Length: Year

Credit: English

Prerequisite: Any English AP/AT course; or Semester I grade of B or higher in an 11th-grade English course; or Semester I grade of B+ or higher in English 10/ American Studies. Students with a Semester I grade of B in English 10/American Studies may seek an override which requires approval from current English teacher, counselor, and English department chair.

Note: Students who have signed up will be required to submit a portfolio of creative writing pieces prior to the fall semester in order to remain in the course. See your English teacher for details. The Advanced Topic (AT) designation indicates a course is at university level, putting it at or above the level of a traditional Advanced Placement (AP) course. This course has a grade point weighting of 0.5.

Designed for students who already have a regular

writing practice in any creative genre, and can demonstrate a passion for creative writing, this course is an inquiry into the world of writing and publication, culminating in publication of an anthology of works composed, edited, designed, and marketed by students. Students will learn creativity and collaboration skills as a backdrop to their focus on writing. Skills we develop include idea generation, giving and responding to peer feedback, intensive revision, and purposeful reflection. Students will have the choice to learn editing, design, marketing, or events planning on smaller teams. The course features workshops to improve drafting and editing skills, study and analysis of writing that focuses on process and audience, encounters with visiting local and international authors, and a writers' retreat to encourage growth of relationships and community. The course demands rigorous independent work and responsibility to meet community expectations and deadlines.

lenses; writing and revising to analyze, propose and reflect. The course has a demanding reading, writing and creating workload, and is meant for students who are interested in challenging literary texts combined with a cognitive mentorship approach in which the teacher learns and creates alongside the students as a member of the reading community.

AT English: Literature

ID: 41047 Grade: 11–12 Length: Year

Credit: English

Prerequisite: Any English AP/AT course; or Semester I grade of B or higher in an 11th-grade English course; or Semester I grade of B+ or higher in English 10/American Studies. Students with a Semester I grade of B in English 10/American Studies may seek an override which requires approval from current English teacher, counselor, and English department chair.

Note: Students who have taken AP English: Literature are eligible to take this course. Students who have signed up will be required to submit a short video prior to the fall semester in order to remain in the course. See your English teacher for details.

The Advanced Topic (AT) designation indicates a course is at university level, putting it at or above the level of a traditional Advanced Placement (AP) course. This course has a grade point weighting of 0.5.

AT English: Literature is for avid readers, interested in pursuing deeper and more creative ways to read. The course will build a critical reading community that discusses, questions, shares, and creates. There will be also be opportunities to makes choices and decisions about texts and assessments. The central question of the course is: How does engaging with a text through multiple modalities deepen understanding and relevance? Integral to the course are long-term reading and reinvention projects where students will respond to and reinvent a text through performance and other creative works. Students will also learn to interpret texts through conventional academic

SOCIAL STUDIES

Social Studies offerings are designed to allow students to develop and demonstrate character, collaboration, communication, creativity, critical thinking, cultural competence, and content knowledge. Toward this end, courses are built around the College, Career, and Civic Life (C3) framework, a set of standards from the US National Council for the Social Studies (NCSS). Students will develop questions, apply disciplinary tools, evaluate evidence, and take action as they communicate conclusions. Ninth-grade students will take one of the two world history courses outlined below. Tenth- through twelfth-grade students have a wide variety of choices in the disciplines of history, government, economics, business, geography, and psychology, as well as the opportunity to take Advanced Studies courses in those disciplines.

REQUIRED NINTH-GRADE WORLD HISTORY OPTIONS

All SAS ninth grade students must be enrolled in either World History or World Studies, which is a double-block course that combines English 9/World History.

World History, English 9 and World Studies each challenge students to dive more deeply into covered content knowledge and empower students to make meaningful connections across disciplines. As a double-block course, World Studies meets every day with the same teacher. World History and English 9 each meet every other day. For students enrolled in World Studies, transcripts will include a single grade for World Studies rather. For students enrolled in World History and English 9, transcripts will include two independent grades. Whether a student elects to take World Studies or World History and English 9, the student will need to engage thoughtfully with content and master the skills of speaking persuasively, writing effectively, and reading analytically. Students will be expected to consistently research and share their perspectives in collaborative environments. The skills, methods, and thinking emphasized in English 9, World History, and World Studies will prove beneficial when students are asked to choose and develop an interdisciplinary SAS Catalyst Project. Both pathways will adequately prepare students for higher level social studies and English courses (AP and AT).

World Studies (Eng. 9/World History)

ID: 41005 Grade: 9 Length: Year

Credit: English/Social Studies (2)

Prerequisite: None

Note: World Studies is a combined double-block English 9 and World History course. The course meets daily with the same teacher. Students can choose the double-block World Studies or separate English 9 and World History.

[Please refer to the full course description in the English section.](#)

World History

ID: 42022 Grade: 9 Length: Year

Credit: Social Studies

Prerequisite: None

Note: All ninth graders must enroll in either this course or World Studies.

World History will provide students with the opportunity to explore critical issues, individuals and turning points in the histories of the world. Students will analyze the extent to which ideologies, societies, and events developed and shaped both our history and contemporary issues. Using an inquiry framework, students will develop questions, read and think like a historian, evaluate sources, and communicate ideas. Through the thematic lenses of power, belief, conflict and change, students will be challenged to think critically and to make thoughtful connections as they draw on a variety of resources to understand the human experience. By the end of the course, students should be able to discuss their understanding of these themes, supported by historical evidence. The course themes are linked to the English 9 course and students will be encouraged throughout the year to make connections between these courses.

U.S. HISTORY OPTIONS**American Studies (Eng. 10/U.S. History)**

ID: 41014 Grade: 10 Length: Year

Credit: English/US History (2)

Prerequisite: None

Note: American Studies is a combined double-block English 9 and US History & Government course.

The course meets daily with the same teacher.

Sophomores can either choose the double-block American Studies or choose English 10 and either US History & Government, AP U.S. History or any other social studies course.

[Please refer to the full course description in the English section.](#)

U.S. History and Government

ID: 42012 Grade: 10–12 Length: Year

Credit: US History

Prerequisite: None

U.S. History and Government enables students to make thoughtful judgments on issues of the past, present, and future. Students will analyze events in U.S. History for their significance and relevance to today. The course will be structured around unit concepts such as Liberty & Order, Triumph & Tragedy, Capitalism, and Conflict & Compromise. We will foster independent learning and student voice and choice. The first semester will feature analysis of the U.S. Constitution and government, and student participation in the National History Day competition. The year will end with a model Congress/United Nations simulation in which students will immerse themselves in solving challenges facing the U.S. and the world. Students will primarily be assessed on their ability to apply their knowledge.

AP U.S. History

ID: 42036 Grade: 10–12 Length: Year

Credit: US History

Prerequisite: Semester I grade of A or higher in World History/World Studies is required to select this course in grade 10; a B or higher in a 10th- or 11th-grade social studies course is required to select this course in grades 11 or 12, or current teacher recommendation.

Note: This course has a grade point weighting of 0.5.

This course provides students with an understanding of major themes in U.S. history, including American identity, economic and

social life, political change and continuity, and the U.S. role in the world. The course is ideal for the student who has a real interest in history and who is prepared to work consistently and to go well beyond mere memorization of the material. Students are required to be internally motivated, to have good reading and comprehension skills, to be well organized, and to be prepared to examine and think about different, often conflicting, interpretations of history. The course moves briskly, so students must be prepared to devote time daily to reading and note taking. There will be considerable in-class discussions based on assigned readings, as well as numerous interpretive essays. Students will be prepared for and strongly encouraged to sit for the AP exam in May.

ADDITIONAL HISTORY, POLITICS, AND GEOGRAPHY OPTIONS**History of Malaysia and Singapore**

ID: 42007 Grade: 10–12 Length: Semester

Credit: Social Studies

Prerequisite: None

This course provides an overview of the events and forces that have created the modern nations of Malaysia and Singapore. Students will examine the common cultural and historical background of the two countries, as well as the impact of geography and location on their histories. The role of foreign empires and colonial powers will be examined, along with the forces at work and the courses followed in their independence movements. Emphasis will also be placed on Singapore and Malaysia today. Students will examine these societies, cultures, economies, and political development through simulations, independent research, lectures, and class discussion.

AP U.S. Government and Politics

ID: 42035 Grade: 11–12 Length: Semester I

Credit: Social Studies

Prerequisite: Semester I grade of B or higher in a 10th- or 11th-grade social studies course is required; or current teacher recommendation.

Note: This course has a grade point weighting of 0.5.

This college level course is designed to give students an analytical perspective on government and politics in the United States. The course includes both the study of general concepts used to interpret U.S. politics and the analysis of specific examples. The following are the basic concepts

to be covered: constitutional underpinnings of U.S. government; political beliefs and behaviors; political parties, interest groups, and the mass media; institutions of national government; and the formation of public policy. Students will be prepared for and strongly encouraged to sit for the AP exam in May.

AP Comparative Government and Politics

ID: 42031 Grade: 11–12 Length: Semester II

Credit: Social Studies

Prerequisite: Semester I grade of B or higher in a 10th- or 11th-grade social studies course is required; or current teacher recommendation

Note: This course has a grade point weighting of 0.5.

This college level course is intended to help students better understand the diverse constitutional, ideological, and social bases of political leadership exercised by different countries. Six countries, China, Great Britain, Iran, Mexico, Nigeria, and Russia are examined. Basic concepts to be covered are: the sources of sovereignty, public authority and political power; national and international political institutions; the relationship between citizens, state, and society; the causes and effects of political and economic change; and various areas of public policy. Students will be prepared for and strongly encouraged to sit for the AP exam in May.

AT Geography and Field Research

ID: 42063 Grade: 10–12 Length: Year

Credit: Social Studies

Prerequisite: Semester I grade of A or better in World History/World Studies is required to select this course in grade 10; a Semester I grade of B or higher is required in a 10th-grade social studies course to select this course in grade 11; or current teacher recommendation.

Note: The Advanced Topic (AT) designation indicates a course is at university level, putting it at or above the level of a traditional Advanced Placement (AP) course. This course has a grade point weighting of 0.5.

Geography takes advantage of its position to examine relevant concepts and ideas from a wide variety of disciplines. This helps students develop an appreciation of, and a respect for, alternative approaches, viewpoints and ideas. This inquiry-based geography course focuses on human geography and ensures that students acquire elements of a variety of research and fieldwork methodologies.

The AT Geography course embodies global and international awareness in several distinct ways. It examines key global issues and utilizes examples and detailed case studies at a variety of scales, from local to regional, national and international.

This is an inquiry-based course that will involve fieldwork in a variety of locations in Singapore, as well as research projects on a variety of global locations and issues.

AT Historical Inquiry and Research

ID: 42064 Grade: 10–12 Length: Year

Credit: Social Studies

Prerequisite: A Semester I grade of A or higher in World History/World Studies is required to select this course in grade 10; a Semester I grade of B or higher in a 10th- or 11th-grade non-AP/non-AT social studies course, or a Semester I grade of C+ or higher in an AP or AT social studies course is required to select this course in grade 11 or 12.

Note: The Advanced Topic (AT) designation indicates a course is at university level, putting it at or above the level of a traditional Advanced Placement (AP) course. This course has a grade point weighting of 0.5.

This in-depth, focused history course fosters in students the skills that professional historians use in their work. Students will begin by developing broad content knowledge in several areas of study, including historiography, political geography and periodization. The course will begin with a focus on Southeast Asian history and expand outwards to the world from the pre-colonial to post-industrial eras. From this content base, students will engage in 4 additional historical inquiries, becoming progressively more open and responsive to student choice and interest. Students are expected to develop and nurture a passion for history throughout, and will designate an area of specialization for their final inquiry. It is expected that students will produce academic works, public products, and defend their conclusions and methodologies.

AT Urban Studies

ID: 42060 Grade: 11–12 Length: Semester

*Credit: Social Studies**Prerequisite: AP Human Geography; or a Semester I grade of B or higher in a 10th- or 11th grade social studies course is required to select this course; or current teacher recommendation.**Note: The Advanced Topic (AT) designation indicates a course is at university level, putting it at or above the level of a traditional Advanced Placement (AP) course. This course has a grade point weighting of 0.5.*

Students will study urban development from a historical and a geographic perspective focusing on themes, trends, and challenges that have faced urban planners. Students will engage in various interdisciplinary assignments and projects which demonstrate understanding of the key concepts, content, and skills associated with city design and analysis. Students will apply this knowledge to Singapore and look for themes and patterns related to various community stakeholders. Students will then focus on a theme of personal interest which will form the basis of field work research paper/project. Themes could relate to topics such as gentrification, green space, the negotiation between private and public interests, architecture, transportation, leisure and recreation, or government housing, and may focus on one specific location, such as the their own neighborhood.

Following the fieldwork-based research, students will look at the main challenges and issues facing urban planners today around the world. The culminating summative project will be a research project which can take a variety of forms, but will address one of these issues. Students will also share a presentation which summarises their research and findings. This course will involve research in the field, and will require students to visit sites in their own time, and be responsible for conducting that field research.

ECONOMICS AND PSYCHOLOGY OPTIONS**Economics**

ID: 42008 Grade: 10–12 Length: Semester

*Credit: Social Studies**Prerequisite: None*

Economics will provide students some insight into ways by which people and nations function economically, i.e., how they make a living. Basic economic concepts including wealth, utility,

capital, labor, supply and demand, profit and competition, production, distribution, exchange, consumption, and the factors affecting each area are studied. Monetary and fiscal policies are examined in the light of contemporary economics, both national and international. Students will study major recessions to understand fiscal policy, the public debt, and ways banks create money.

Behavioral Economics & Game Theory

ID: 42023 Grade: 10–12 Length: Semester

*Credit: Social Studies**Prerequisite: None*

Note: This course was previously known as Decision/Analysis. This course does not meet the NCAA Division I core course requirement for Social Studies. See counselor for details.

This course uses models from the disciplines of psychology and economics to encourage a logical, deductive approach to thinking, and to look at several different approaches to resolving conflicts. The major analytical models presented are derived from “game theory” and “behavioral economics”. These models are used to tackle issues and problems across the entire spectrum of the social sciences. The course is largely problem centered, applying game theory tactics and skills to hypothetical situations and to case studies that come from history, current world events, and the immediate world around us. Individual analysis, small group discussion, and class discussion are common formats.

AP Economics

ID: 42045 Grade: 11–12 Length: Year

*Credit: Social Studies**Prerequisite: Semester I grade of B or higher in a 10th- or 11th-grade social studies course; or current teacher recommendation.**Note: This course has a grade point weighting of 0.5.*

AP Economics is made up of two semester-length College Board AP courses - Macroeconomics and Microeconomics. Topics covered include basic concepts such as scarcity, trade-offs, and the functions of the economics system; the nature and function of product markets, including basic supply and demand theory, consumer choice theory, and pricing theory; the nature and function of factor markets, including theories of wage determination; measurement of economic performance using concepts such as gross domestic product, inflation, and unemployment; analysis of various schools of economic thought

in relation to aggregate demand and aggregate supply; money and banking, including the tools of the central bank; and, finally, the usefulness of various government policies that can be applied to remedy the economic problems discussed throughout each semester. College Board offers both an AP Microeconomics and AP Macroeconomics exam. This course prepares students to take both exams in May. SAS offers two different versions of AP Economics, this course, where students proceed at the normal AP pace, and a self-paced AP Economics (42046). Students will be prepared for and strongly encouraged to sit for the AP exam in May.

AP Economics (Self-Paced)

ID: 42046 Grade: 11–12 Length: Year

Credit: Social Studies

Prerequisite: Semester I grade of B or higher in a 10th- or 11th-grade social studies course; or current teacher recommendation.

Note: This course has a grade point weighting of 0.5.

This “self-paced” AP Economics covers the same content as the more traditional AP Economics course (42045), but students have the flexibility to move faster than the normal pace of the class. Students may take assessments before the normal “due date” but may not fall behind. Students who sign up for this course will benefit from the flexibility to plan the timing of assessments themselves but should be self-directed and strong independent learners. Students will be prepared for and strongly encouraged to sit for the AP exam in May.

AT Economics: Globalization

ID: 42061 Grade: 11–12 Length: Semester

Credit: Social Studies

Prerequisite: AP Economics; or a Semester I grade of A or higher in Economics plus teacher recommendation.

Note: This course is aligned to the criteria for a Syracuse University economics course (SUPA ECN 203). AT Economics: Globalization students may elect to earn Syracuse University credit by concurrently enrolling in SUPA ECN 203. Students must enroll in the Syracuse University system at the beginning of AT Economics: Globalization and successfully complete additional assignments and assessments through self-study in order to earn Syracuse University credit. Please note that there is a cost per Syracuse University credit hour that families must pay if students choose to concurrently enroll. For further information, please see the SUPA website (<http://supa.syr.edu>). To determine whether participation in this program is a fit for your long-term goals, please speak with your counselor. The Advanced Topic (AT) designation indicates a course is at university level, putting it at or above the level of a traditional Advanced Placement (AP) course. This course has a grade point weighting of 0.5.

This college level course is designed to offer students an opportunity to delve deeper into the international economy than our introductory courses allow. The focus of the course is globalization (international trade and economic development). Students use the conventional models learned in previous economics classes as well as the less conventional models of behavioral economics to study economic development and growth. All students will write a research paper and work on a development problem with a local social enterprise as culminating economics projects. The course requires rigorous study and emphasizes in-depth research.

Psychology

ID: 42010 Grade: 11–12 Length: Semester

Credit: Social Studies

Prerequisite: None

This course focuses on the study of the mind and behavior, beginning with a brief history of psychology and a look at the work of its principal theorists. Because technological innovations have made the structure and work of the mind more accessible in the past decade, some time is spent addressing recent findings in articles and documentaries as well as the text. Principal units

include The Brain, Learning and Conditioning, Memory and Thought, Altered States of Consciousness, Intelligence, Personality Theory, Abnormal Psychology, and Nature or Nurture.

AT Psychology

ID: 42062 Grade: 11–12 Length: Year

Credit: Social Studies

Prerequisite: Semester I grade of B or higher in a 10th- or 11th-grade social studies course; or current teacher recommendation.

Note: Students who have taken AP Psychology previously are not eligible to take this course.

This course is aligned to the criteria for a Syracuse University psychology course (SUPA PSY 205). AT Psychology: students may elect to earn Syracuse University credit by concurrently enrolling in SUPA PSY 205. Students must enroll in the Syracuse University system at the beginning of AT Psychology. Please note that there is a cost per Syracuse University credit hour that families must pay if students choose to concurrently enroll. For further information, please see the SUPA website (<http://supa.syr.edu>). To determine whether participation in this program is a fit for your long-term goals, please speak with your counselor. The Advanced Topic (AT) designation indicates a course is at university level, putting it at or above the level of a traditional Advanced Placement (AP) course. This course has a grade point weighting of 0.5.

AT Psychology introduces students to the scientific study of human behavior and mental processes. Through examining basic theories, research discoveries and the applied use of psychology, students will understand multiple perspectives demonstrating that, while psychology covers diverse topics they are not separate and distinct, rather they are integrated and together combine to give us the entire picture of human behavior, cognition and emotion. Students will learn to access, critically read and evaluate current research in the field of psychology and will conduct both individual and group research into a topic of interest, thus gaining a strong understanding of the psychological principles as applied to their lives and the world around them. They will complete the course with a strong foundation in scientific research methodology. Students in AT Psychology will have the option to take it as a dual-enrollment course with Syracuse University.

MATHEMATICS

The mathematics curriculum is designed to meet the needs of students who have varying backgrounds, knowledge and skills, as well as diverse interests and career goals.

The goals of the mathematics program are:

- to provide opportunities for students to challenge themselves and to encourage them to do so,
- to provide students with options and wherever possible, keep doors open to high level math offerings,
- to ensure that all students learn what they need for college success, and where possible, advancement.

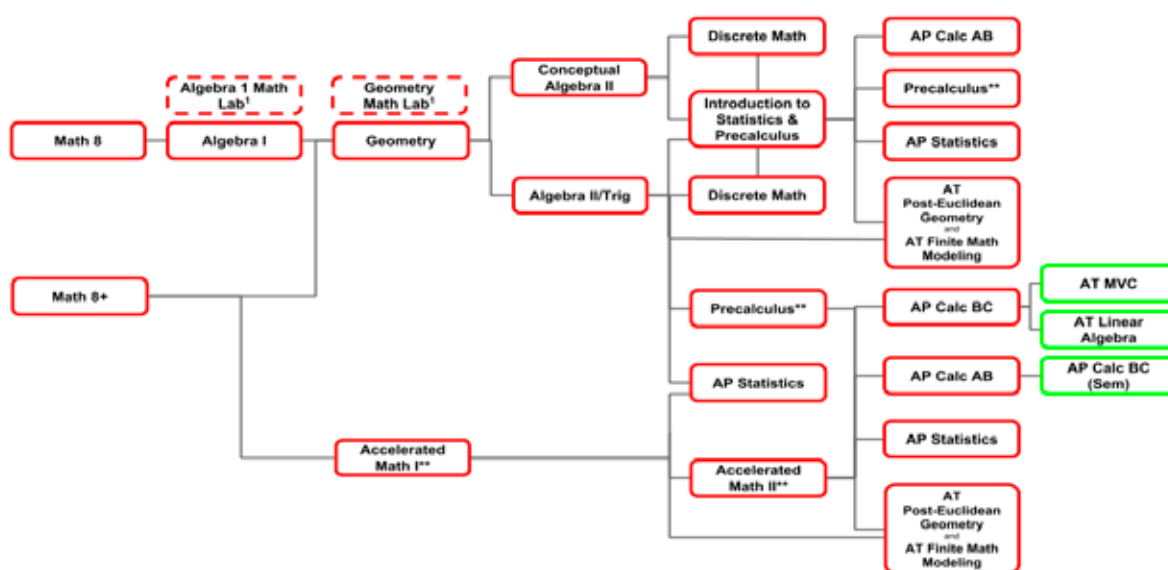
All students must earn two math credits in high school, one of which must be at the level of Geometry or higher. It is generally recommended that students take math for all four years of high school.

The math department embraces the use of technology and to this end, the TI-Nspire CX calculator is prescribed for all math courses.

The following math department policies and practices should also be noted:

1. Students are generally able to double-up on math credits (take two courses concurrently) where they meet the prerequisites but there are two exceptions . First, in order for a student to double up in Geometry and A2/T, they must obtain a recommendation from their Algebra 1 teacher and second, for ninth grade students, a double-up is not permitted.
2. Students looking to accelerate their math sequence are able to take a validation (skip) exam in order to bypass the next course . Students must meet the minimum grade prerequisites in order to be permitted to take the validation exam . If they are able to demonstrate the requisite knowledge in the validation exam, they will be allowed to 'skip' the course, but will not receive credit . The validation exam takes place the week before school officially starts for students.
3. New students will be placed based on the results of a placement assessment administered following admission.
4. Students who fall half a grade below a prerequisite for a specific math class at the end of Semester I will earn eligibility into their desired math class by earning the necessary grade prerequisite at the end of Semester II. Students who fall more than half a grade below who make the grade in Semester II should speak with the math department chair.

HS MATH COURSE FLOWCHART



NOTE:

1. Both Algebra 1 and Geometry Math Labs require administrative approval for enrollment

Algebra I

ID: 43003 Grade: 9–12 Length: Year

Credit: Math

Prerequisite: None

This is the standard high school Algebra I course designed for students who have mastered the basic mathematics skills and concepts of Pre-Algebra. Algebra I covers linear, quadratic, rational and exponential functions, systems of inequalities and equations, and statistical analysis. The approach used will emphasize problem solving, oral and written communication, and reasoning skills. This course is aligned with Common Core Standards with a strong emphasis on technology.

Geometry

ID: 43011 Grade: 9–12 Length: Year

Credit: Math

Prerequisite: Algebra I. Approval from 8th-grade math teacher required to select this course in grade 9.

This course is designed for students who have successfully completed Algebra I. Students deepen their understanding of geometric relationships, moving towards formal mathematical arguments. The course includes transformations, similarity, triangles, quadrilaterals, polygons, triangle trigonometry, circles, and area and volume of two- and three-dimensional figures. Coordinates, problem solving, and other elements of algebra are prevalent. This course is fully aligned to Common Core standards.

Algebra II/Trigonometry

ID: 43013 Grade: 9–12 Length: Year

Credit: Math

Prerequisite: Semester I grade of C or higher in Geometry.

Building on their work with linear, quadratic, and exponential functions in Algebra 1, students in Algebra II/Trig extend their repertoire of functions to include absolute value, rational, radical, polynomial, logarithmic and trigonometric functions. Students will analyze these functions through several lenses: graphing transformations, simplifying expressions, solving equations, and modelling. Graphing calculators will be used to facilitate graphic solutions to application problems. Students will end the year with a unit on probability. This course is fully aligned to Common Core standards and prepares students for Introduction to Statistics and PreCalculus as well as honors level PreCalculus.

Conceptual Algebra II

ID: 43004 Grade: 9–12 Length: Year

Credit: Math

Prerequisite: Geometry plus current math teacher's recommendation.

Note: This course is officially named Algebra II.

It is only open to students who have a teacher recommendation. Most students would select Algebra II/Trig.

This course will allow students to meet the minimum prescribed levels of Algebra required by most colleges. The course is designed to support students for whom the Algebra II/Trigonometry course is not a viable option. The course will focus on the development of the student's conceptual understanding of the Algebra II topics including elements of functions, quadratic, polynomial, exponential functions, and probability. The approach used will emphasize problem solving, oral and written communication, and reasoning skills.

Introduction to Statistics and Precalculus

ID: 43007 Grade: 9–12 Length: Year

Credit: Math

Prerequisite: Semester I grade of A or higher in Conceptual Algebra II or the department chair's approval; or a Semester I grade of C or higher in Algebra II/Trigonometry.

This course focuses on further developing students' proficiency with algebra and probability, and it includes a review and extension of trigonometry topics previously learned. Students will learn about arithmetic and geometric sequences and series, extend their understanding of probability to include counting methods, expected value and probability distributions, and review trigonometric functions and transformations with an introduction to trigonometric identities. The course also includes exploration of topics including polynomials as well as logarithmic and exponential functions. This course provides students with a solid foundation to take Pre-Calculus, AP Statistics, AT Post-Euclidean Geometry, and AT Finite Math Modelling; the course also provides access to AP Calculus AB to students who excel.

Discrete Mathematics

ID: 43017 Grade: 9–12 Length: Year

*Credit: Math**Prerequisite: Conceptual Algebra II; or Algebra II/Trigonometry.*

This course is designed for the student who wants to continue on in mathematics and learn many real-life applications, but might not intend to pursue calculus level classes. Discrete Math students find that the topics covered in class are closely related with many things they do in other disciplines. Discrete Mathematics provides an introduction to a variety of contemporary topics that are useful in various fields such as business and social sciences, as well as the physical and computer sciences. The topics include use of graphs to model real life applications, election theory, fair division of assets, linear programming, logic, and applications of matrices, probability and statistics. Problem based projects will be included in the class.

Pre-Calculus

ID: 43020 Grade: 9–12 Length: Year

*Credit: Math**Prerequisite: Semester I grade of B or higher in Algebra II/Trig or Introduction to Statistics & Precalculus.*

This honors level course is a prerequisite for AP Calculus BC and the recommended course of study for students planning to take AP Calculus AB. Typically, students will find this to be a higher-paced, more time-intensive and rigorous option than previous courses in the sequence. Students wishing to be successful in this course will adopt a mindset that is committed to conceptual understanding as they look to examine the common themes that link this discipline together. During the first semester they will encounter sequences & series, probability distributions, and extend their knowledge in analytical trigonometry, polar relationships and conic sections. Throughout the second semester they will master a variety of topics essential for calculus that include polynomial optimization, rational functions & limits, modelling with the natural base, and modelling problems in motion.

Accelerated Math I

ID: 43014 Grade: 9–12 Length: Year

*Credit: Math**Prerequisite: Math 8+ plus approval from 8th-grade math teacher; or Semester I grade of A or higher in Algebra I plus current teacher recommendation.*

This course is designed to serve highly motivated and able math students who excelled in Math 8+ or in Algebra 1 and are looking to access the highest level math offerings at SAS. It is the first year of a two year sequence that covers key content from Geometry and Algebra II/Trigonometry. The course aims to cover a broad range of topics and will therefore be high paced and rigorous. After successfully completing both Accelerated Math I and II, students will be able to enter AP Calculus. On transcripts this course is identified as being equivalent to an honors level course.

Accelerated Math II

ID: 43015 Grade: 9–12 Length: Year

*Credit: Math**Prerequisite: Semester I grade of B or higher in Accelerated Math I.*

This course is the second year of the Accelerated Math I and II sequence. It is designed to serve highly motivated and able math students looking to access the highest level math offerings at SAS. It covers key content from Algebra II/Trigonometry and Pre-Calculus. The course aims to cover a broad range of topics and will therefore be fast paced and rigorous. After successfully completing both Accelerated Math I and II, students will be able to enter AP Calculus. On transcripts this course is identified as being equivalent to an honors level course.

AP Calculus AB

ID: 43026 Grade: 9–12 Length: Year

*Credit: Math**Prerequisite: Semester 1 grade of B or higher in Pre-Calculus. Semester 1 grade of B or higher with teacher recommendation for Accelerated Math II. Semester 1 grade of A or higher in ISP and teacher recommendation.**Note: This course has a grade point weighting of 0.5.*

This course covers topics typically found in a first-semester calculus course at U.S. universities. The course covers limits, continuity, differentiation and integration, and their applications. Success in this course requires a solid Pre-Calculus background.

Students will be prepared for and strongly encouraged to sit for the AP exam in May.

AP Calculus BC

ID: 43032 Grade: 9–12 Length: Year

Credit: Math

Prerequisite: Semester 1 grade of A or higher in Pre-Calculus. Semester 1 grade of A or higher with teacher recommendation for Accelerated Math II.

Note: This course has a grade point weighting of 0.5.

This fast paced course covers topics usually found in the first two semesters of a first year calculus course at US universities. The course covers all of the topics in AP Calculus AB: limits, continuity, differentiation and integration, and their applications. In addition, AP Calculus BC includes: new integration techniques, polar, parametric and vector calculus and sequences and series, including Taylor series. Students will be prepared for and strongly encouraged to sit for the AP exam in May.

AP Calculus BC (Post-AB)

ID: 43033 Grade: 9–12 Length: Semester I

Credit: Math

Prerequisite: Semester I grade of B or higher in AP Calculus AB.

Note: Designed for students who have completed AP Calculus AB. This course has a grade point weighting of 0.5.

In this course, students first complete the AP Calculus BC syllabus, which covers several new integration techniques and a unit on Taylor Series. The course then covers topics typically found in a second year calculus course at U.S. universities, such as partial differentiation, multiple integration, and vector analysis. Students will be prepared for and strongly encouraged to sit for the AP exam in May.

AP Statistics

ID: 43040 Grade: 9–12 Length: Year

Credit: Math

Prerequisite: Semester 1 grade of A or higher in Accelerated Math I, Algebra II/Trig; or a B or higher in ISP; or a C+ or higher in any higher level math course.

Note: This course has a grade point weighting of 0.25.

The purpose of this course is to introduce students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data.

The four major themes are exploring data to find patterns, planning a study, exploring random phenomena using probability and simulations, and statistical inference, including confidence intervals and hypothesis testing. Students will be prepared for and strongly encouraged to sit for the AP exam in May.

AT Post-Euclidean Geometry

ID: 43041 Grade: 9–12 Length: Semester I

Credit: Math

Prerequisite: Semester I grade of A or higher in Accelerated Math I or Algebra II/Trig; or a Semester I grade of B or higher in ISP; or a Semester I grade of C+ or higher in any higher level math course. Students must also have successfully completed a HS Geometry course or equivalent.

Note: The Advanced Topic (AT) designation indicates a course is at university level, putting it at or above the level of a traditional Advanced Placement (AP) course. This course has a grade point weighting of 0.5.

This elective course is designed for students who seek further advanced study and applications beyond the Geometry course, involving concepts acquired in Algebra II/Trigonometry. Topics will include non-Euclidean geometries, further work with transformations and constructions, and higher level work with conic sections. Project-based learning will be prevalent, involving real-world applications, such as the shapes of satellite dishes, origami, animation design, and the spherical geometry of the Earth.

AT Finite Math Modeling

ID: 43042 Grade: 9–12 Length: Semester II

Credit: Math

Prerequisite: Semester I grade of A or higher in Accelerated Math I or Algebra II/Trig; or a Semester I grade of B or higher in ISP; or a Semester I grade of C+ or higher in any higher level math course.

Note: The Advanced Topic (AT) designation indicates a course is at university level, putting it at or above the level of a traditional Advanced Placement (AP) course. This course has a grade point weighting of 0.5.

This elective course is designed for students who seek high level applications of math to real life situations. Mathematics will be used to explain and analyze elections, fair allocation of resources, and scheduling. Mathematical models will be used based on matrices, game theory, and graph theory. Project-based learning will be

prevalent, involving real-world applications, such as perceived rewards, transportation networks, different systems of voting, and critical path schedules.

AT Multivariable Calculus

ID: 43043 Grade: 9–12 Length: Semester

Credit: Math

Prerequisite: AP Calculus BC

Note: The Advanced Topic (AT) designation indicates a course is at university level, putting it at or above the level of a traditional Advanced Placement (AP) course. This course has a grade point weighting of 0.5.

This course covers topics found in typical semester-long multivariable calculus courses at universities. The course will focus on multivariable calculus including visualizing and working with functions of several variables, vectors and vector-valued functions, differentiating functions of several variables, gradients, partial derivatives, and multiple integration of several variables. Students will complete a group project aligning their skills to real world physical models and present their findings to a group of experts. Students finish the semester with an individual project that connects multivariable calculus with new contexts.

AT Linear Algebra

ID: 43044 Grade: 9–12 Length: Semester

Credit: Math

Prerequisite: AP Calculus BC

Note: The Advanced Topic (AT) designation indicates a course is at university level, putting it at or above the level of a traditional Advanced Placement (AP) course. This course has a grade point weighting of 0.5.

This course covers topics found in typical semester-long linear algebra courses at universities. The course will focus on systems of linear equations and their applications, linear independence and dependence, linear transformations and their matrix representations, matrix algebra, characterizations of invertible matrices, determinants, vector spaces and subspaces, null and column spaces, as well as Eigenvalues and Eigenvectors. During the second semester, students will complete projects tied to real world applications which may include: animation, computer graphics, animal carrying capacities, Google page rankings, and transformations.

SCIENCE

Scientifically literate individuals possess both a knowledge of facts and an understanding of concepts from a wide range of scientific disciplines. They should also have the opportunity to develop, through experimentation, the process skills that encourage and enable continuous learning and critical thinking. The goal is to develop scientifically literate individuals who understand and appreciate the interrelationships of science, technology, and society. All courses incorporate technology based laboratories (including graphical analysis software) and interactive resources.

All SAS ninth graders must enroll in a biology course. Tenth graders must enroll in a physical science course—usually chemistry. Nearly all SAS graduates complete three years of science, with most earning four or more science credits.

New high school students arriving from an “integrated science” program typically enroll in Biology, Accelerated Biology, or Chemistry if arriving in ninth or tenth grades. After completing two years of an integrated science program, Accelerated Biology, Accelerated Chemistry, or Physics are the typical choices.

Biology

ID: 44005

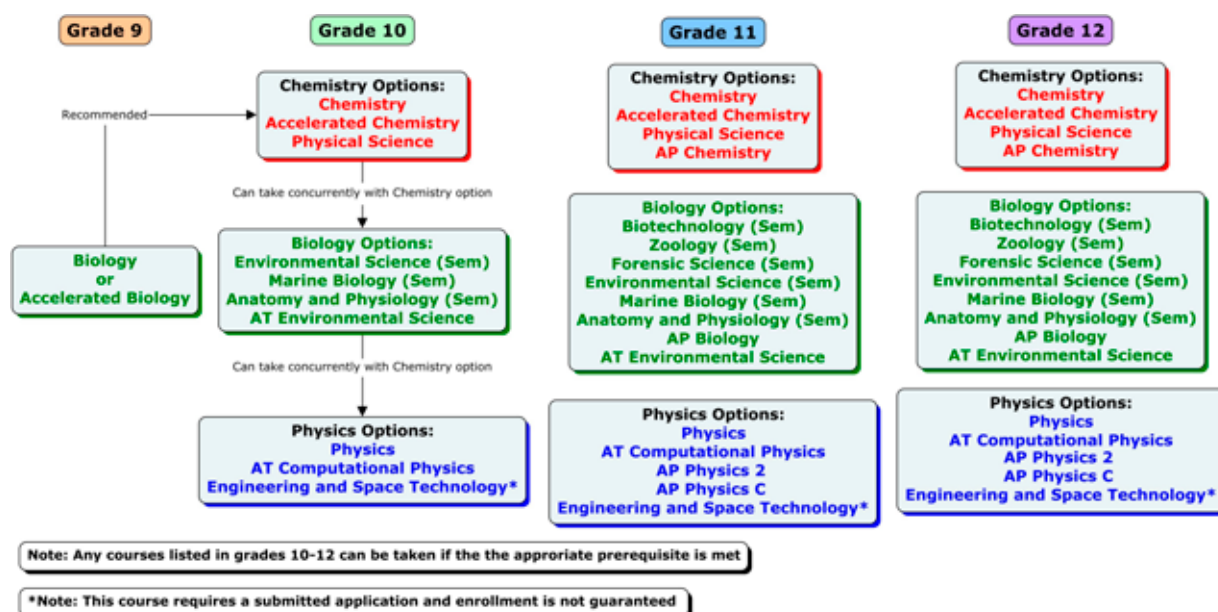
Grade: 9–11

Length: Year

Credit: Life Science

Prerequisite: None

Biology at SAS is a full-year, college-preparatory curriculum based on the Next Generation Science Standards (NGSS). As the course centers on the study of the living world, it is of special relevance and accessibility to students. Students will learn to use and improve their science processing skills in order to solve problems. Laboratory and field based investigations will allow students to have first-hand experience with modern methods of analysis. There are five life science topics in high school as outlined by NGSS: (1) Structure and Function, (2) Inheritance and Variation of Traits, (3) Matter and Energy in Organisms and Ecosystems, (4) Interdependent Relationships in Ecosystems, and (5) Natural Selection and Evolution. The NGSS performance expectations for high school life sciences blend core ideas with science and engineering practices and cross-cutting concepts to support students in developing usable knowledge that can be applied across the science disciplines.



Accelerated Biology

ID: 44008 Grade: 9–12 Length: Year

Credit: Life Science

Prerequisite: Approval from 8th-grade science teacher is required to select this course in grade 9.

Note: This course was previously named Molecular Biology. If a credit was earned in that course, you cannot retake it under this new name.

Accelerated Biology is a rigorous course that follows the Next Generation Science Standards, is taught at a faster pace, and requires more critical reading and daily work than Biology. This course will be of particular interest to those who are interested in pursuing a college major or career in scientific fields such as medicine, engineering, or the pure sciences. There are five life science topics in high school as outlined by NGSS: (1) Structure and Function, (2) Inheritance and Variation of Traits, (3) Matter and Energy in Organisms and Ecosystems, (4) Interdependent Relationships in Ecosystems, and (5) Natural Selection and Evolution. The NGSS performance expectations for high school life sciences blend core ideas with science and engineering practices and cross-cutting concepts to support students in developing usable knowledge that can be applied across the science disciplines. Laboratory and field based investigations will allow students to have first-hand experience with modern methods of analysis built around computer based probeware. Students enrolling in this course should be able to read at or above grade level and should have demonstrated high levels of achievement in previous science courses. On students' transcripts, this course is designated as being equivalent to an honors course.

Biotechnology

ID: 44016 Grade: 11–12 Length: Semester

Credit: Life Science

Prerequisite: None

Recombinant DNA and Biotechnology is designed for students with at least one year of biological science, who are prepared for an in-depth study of the scientific foundations and technological applications of genomic and protein biotechnology. The course emphasizes laboratory techniques and exposes students to a variety of fields including microbiology, cell biology, genetics, bioinformatics, and bioengineering. Students need a solid understanding of DNA structure and replication, protein synthesis, and gene control mechanisms. It is an excellent

course for students who are considering careers in any biological science field, such as genetics, biomedical engineering, or biomedical research.

Marine Biology

ID: 44021 Grade: 10–12 Length: Semester

Credit: Life Science

Prerequisite: Concurrent enrollment in Chemistry or Accelerated Chemistry is required to select this course in grade 10.

This introductory course will explore the fundamentals of oceanography, the biology and diversity of marine organisms, and the patterns and processes that guide the ecological dynamics in various marine communities. The course will give students a general background in the taxonomy of marine organisms as well as the specific adaptations these organisms have evolved to survive in the ocean. Students will also be introduced to various marine ecosystems and the organisms that inhabit them. Laboratory and field based investigations will allow students to have first-hand experience with modern methods of analysis built around computer-based probeware.

Anatomy and Physiology

ID: 44010 Grade: 10–12 Length: Semester

Credit: Life Science

Prerequisite: Biology or Accelerated Biology

This course is designed for students interested in learning the important principles behind human movement, energetics, health and disease. The course focuses on the form and function of the musculoskeletal system and how it is powered by the body's metabolism. Prior knowledge of cell communication and physiology will be leveraged to gain a more thorough understanding of the integration of different body systems, while examining the impact of modern living on our physiology. Students will be asked to challenge their bodies with varied activities such as muscular strength and modified VO2 max tests to further understand how their body responds to applied stresses. Students are expected to devise and conduct a scientific research study during the course in lieu of a final exam.

Zoology

ID: 44013 Grade: 11–12 Length: Semester

*Credit: Life Science**Prerequisite: None*

Zoology is a lab-based course that emphasizes the principles of animal biology and an account of the major types and groups of animals from protozoans to vertebrates. The discussion of each animal type includes an account of its structure and bodily processes together with a summary of its habits and reproduction. Relations of animals to their natural environment and their importance to humans also receive consideration. The broader aspects of animal biology are studied; namely, anatomy, physiology (evolutionary relationships), and ecology.

Forensic Science

ID: 44017 Grade: 11–12 Length: Semester

*Credit: Life Science**Prerequisite: None*

In this course students will learn the real science behind the various laboratory techniques used when analyzing physical evidence from a crime scene. Students will be exposed to various academic fields including photography, mathematics, medicine and entomology. Laboratory skills commensurate with basic forensic science procedure will be applied to topics as diverse as: analyzing fingerprints, DNA, blood, shoe and tire evidence, hair & fiber evidence, autopsy and time of death estimation using insects.

Environmental Science

ID: 44022 Grade: 10–12 Length: Semester

Credit: Life Science

Prerequisite: Concurrent enrollment in Chemistry or Accelerated Chemistry is required to select this course in grade 10.

Environmental Science is a study of the interrelationships between man, other living things and the environment. Students will study all of the components of our environment and their interactions and will seek to understand man's impact on the environment and to discover ways by which we can minimize these impacts. Laboratory and field based investigations into some of these impacts will allow students to have first-hand experience with modern methods of environmental quality analysis built around

computer based probeware. Environmental Science is an applied science course in that it seeks to discover solutions to the most urgent problems facing human society today: the interrelated problems of population, resources, and pollution.

Chemistry

ID: 44014 Grade: 10–12 Length: Year

Credit: Physical Science

Prerequisite: Biology or Physical Science, plus completion of Algebra I or higher level math course.

This course models the fundamental laws of chemistry, kinetic molecular theory and atomic structure to make qualitative and quantitative representations and predictions about chemical processes. The first semester addresses student misconceptions of the particle model of matter in specific relation to conservation laws, the behaviour of gases and energy transfer. The second semester builds on these concepts and focuses on quantifying chemical reactions using masses, gases and solutions. The year concludes as we look deeper into acids, bases and equilibrium. The course encourages problem-solving, inquiry and communication with an emphasis on graphs, diagrams, written explanations, and calculations.

Accelerated Chemistry

ID: 44023 Grade: 10–12 Length: Year

Credit: Physical Science

Prerequisite: Semester I grade of B+ or higher in Biology, plus completion of Geometry or higher level math course; or a Semester I grade of B or better in Accelerated Biology, plus completion of Geometry or higher level math course.

Accelerated Chemistry is an introductory chemistry course designed for above-average students, in particular those who intend to pursue further science courses leading to a science-related career. It is a rigorous course in which students are expected to be able to read and comprehend technical material at or above grade level. The course presents contemporary ideas of chemistry based heavily on laboratory experiences done by both traditional methods and by the use of laptop-based probeware. Energy, stoichiometry, periodicity, chemical bonding and molecular geometry, chemical thermodynamics, chemical kinetics, equilibrium, and quantum mechanics are all examined. On transcripts, this course is designated as being equivalent to an honors course.

Physical Science

ID: 44006 Grade: 10–12 Length: Year

Credit: Physical Science

Prerequisite: Biology or Accelerated Biology

Physical Science is a newly redesigned lab-based course intended to fuel the love of science in students. This interdisciplinary, highly interactive course focuses on the fundamental concepts of chemistry, physics, and earth science. The structure of the course emphasizes projects, demonstrations, and experiments over traditional tests. Course units may include such topics as the science of explosions or attempting to answer interesting but unexplained scientific phenomena. This course is hands-on, experiential, and driven by student interest. .

Physics

ID: 44015 Grade: 10–12 Length: Year

Credit: Physical Science

Prerequisite: Conceptual Algebra II or higher level math course

The Physics course is a math-oriented, problem-solving, laboratory-based approach to physics. It is designed for the student who intends to pursue further science courses. Through laboratory experiences and problem-solving activities, this course will treat each major area of physics in some detail, including mechanics, waves and light, and electricity. Students will use creative problem solving and technology to gather, analyze, and present data and conclusions about the physical world around them.

Engineering and Space Technology

ID: 44038 Grade: 10–12 Length: Year

Credit: Physical Science

Prerequisite: Semester I grade of B or higher in Accelerated Chemistry; or Semester I grade of B+ or higher in Chemistry; or current science teacher recommendation.

Note: Students must apply in order to enroll.

Experience in physics, computer science, and engineering are beneficial but are not necessary to apply.

In this course, students will design and engineer an experiment that will run aboard the International Space Station. The environment of the ISS — a combination of microgravity and periods of high radiation exposure — presents a unique opportunity for students to further scientific

understanding. Students will research science in a project-based environment, tying together fields and skills such as electrical engineering, computer science, materials engineering, finance, design, strategic networking and more. The end product will contribute to scientifically significant research related to space. With a number of constraints, including size and energy use, students will think critically and work creatively to imagine, design and build their experiment. The course is highly student-led, and requires investment in the process of design and learning by doing. Students can expect to work collaboratively and intensively and should be highly motivated in the sciences.

AP Biology

ID: 44027 Grade: 11–12 Length: Year

Credit: Life Science

Prerequisite: Semester I grade of B or higher in Biology or Accelerated Biology, plus a Semester I grade of B+ or higher in Chemistry or B or higher in Accelerated Chemistry.

Note: This course has a grade point weighting of 0.5.

AP Biology is designed for students who are interested in higher studies in biological sciences, engineering, medicine, or related disciplines. This course will examine the four big biological ideas of Evolution, Energy, Information, and Interaction by looking at topics such as molecular and cellular biology, physiology of plants and animals, heredity, ecology, and evolution. While biological knowledge and concepts will be taught, students will approach the material from the perspective of science practices such as modeling, mathematical analysis, scientific questioning, experimental design and execution, data analysis and evaluation, and conceptual connections. Biological concepts will be examined through laboratory exercises that focus on inquiry and investigation. Throughout this course students will improve their capacities for problem solving and critical thinking, preparing them for further study in the biological sciences. Students will be prepared for and strongly encouraged to sit for the AP exam in May.

AT Environmental Science & Field Research

ID: 44036 Grade: 10–12 Length: Year

Credit: Life Science

Prerequisite: Semester I grade of B+ or higher in Accelerated Biology plus concurrent enrollment in a chemistry class is required to select this course in grade 10. Semester II grade of B or higher in Biology or Accelerated Biology, plus Semester I grade of B+ or higher in Chemistry or B or higher in Accelerated Chemistry are required to select this course in grades 11 or 12

Note: The Advanced Topic (AT) designation indicates a course is at university level, putting it at or above the level of a traditional Advanced Placement (AP) course. This course has a grade point weighting of 0.5.

This course offers an intensive, year-long inquiry into the integration of nature, society, economy, and wellness. Grounded in science, students in the class will explore a wide range of environmental issues both natural and human-made. Designed for students who already have a solid grasp of biological and chemical sciences and can demonstrate a passion for examining solutions and alternatives for resolving, decreasing, and preventing environmental problems. The course will feature a variety of units to develop an understanding of the 17 U.N. Sustainable Development Goals through investigation of ecological services, the value of biodiversity and natural resources, and creative work toward the collaborative reduction of human ecological and carbon footprints. Students will develop insights into global cultures in less and more economically developed societies and build empathy for myriad worldviews through role-playing and panel debates on hot-topic issues. Fieldwork investigations will take students out of the classroom into regional terrestrial and aquatic ecosystems to conduct field research culminating in a college-level co-authored paper. Science and engineering practices will be applied through collaborative lab work and analysis of environmental quality, to determine ecosystem integrity. Students will be prepared to take the College Board AP Environmental Science exam.

AP Chemistry

ID: 44031 Grade: 11–12 Length: Year

Credit: Physical Science

Prerequisite: Semester I grade of A or higher in Chemistry, plus either current teacher recommendation or Semester II grade of A or higher in Chemistry; or Semester I grade of B or higher in Accelerated Chemistry; or current teacher recommendation.

Note: This course has a grade point weighting of 0.5.

AP Chemistry is a rigorous, college-level course specifically intended for students who plan higher studies in science, engineering, or medicine. Topics studied include atoms and forces, kinetics, equilibrium, thermodynamics, quantum mechanics and periodicity, electrochemistry and gaseous behavior. Laboratory work involves careful measurements and applications of theory to explain and/or predict the behavior of chemical systems. Laboratory work will include both traditional and probeware-based experiences. The subject matter in this course is presented with an emphasis on both chemical calculations and the conceptual foundation of chemical principles, so a strong mathematics background is imperative. Students will be expected to demonstrate the ability to read and comprehend sophisticated material from college level textbooks and journals and to summarize concepts. Students will be prepared for and strongly encouraged to sit for the AP exam in May. SAS offers two different versions of AP Chemistry. In this course, students proceed at the normal AP pace. A self-paced AP Chemistry (44024) is also available.

AP Chemistry (Self-Paced)

ID: 44024 Grade: 11–12 Length: Year

Credit: Physical Science

Prerequisite: Semester I grade of A or higher in Chemistry, plus either current teacher recommendation or Semester II grade of A or higher in Chemistry; or Semester I grade of B or higher in Accelerated Chemistry; or current teacher recommendation

Note: This course has a grade point weighting of 0.5.

This “self-paced” AP Chemistry covers the same content as the more traditional AP Chemistry course (44031), but students have the flexibility to move faster than the normal pace of the class. Students may take assessments before the normal “due date” but may not fall behind. Students who sign up for this course will benefit from the flexibility to plan the timing of assessments themselves but should be self-directed and strong independent learners.

AT Computational Physics

ID: 44050 Grade: 10–12 Length: Year

*Credit: Physical Science**Prerequisite: Semester I grade of A in Conceptual Algebra II; or completion of Algebra II/Trig or higher level math course*

Note: This course is aligned to the criteria for a Syracuse University physics course (SUPA PHY 101). AT Computational Physics students may elect to earn Syracuse University credit by concurrently enrolling in SUPA PHY 101. Students must enroll in the Syracuse University system at the beginning of AT Computational Physics and successfully complete applicable assignments and assessments in order to earn Syracuse University credit. Please note that there is a cost per Syracuse University credit hour that families must pay if students choose to concurrently enroll. For further information, please see the SUPA website (<http://supa.syr.edu>). To determine whether participation in this program is a fit for your long-term goals, please speak with your counselor. Should students wish to sit the AP Physics 1 exam, they will need to complete independent work and take responsibility for self-studying specific units. The Advanced Topic (AT) designation indicates a course is at university level, putting it at or above the level of a traditional Advanced Placement (AP) course. This course has a grade point weighting of 0.5.

Advanced Topic Computational Physics is an introductory college-level course in physics that will also incorporate coding using vPython and mathematical modeling using Excel. The first three quarters of the year will be dedicated to learning the introductory concepts ideas of classical mechanics as well as an introduction to coding. Students will learn physics theory, perform experiments and compare their experimental results to the data predicted via modeling. The last quarter of the year is dedicated to individualized, student-initiated and designed advanced project using and applying the physics and computer generated data.

AP Physics 2

ID: 44033 Grade: 11–12 Length: Year

Credit: Physical Science

Prerequisite: Semester I grade of B or higher in AP Physics 1 or AT Computational Physics; or Semester I grade of B+ or higher in Physics, plus completion of Chemistry, completion of Accelerated Chemistry, or concurrent enrollment in Accelerated Chemistry

Note: This course has a grade point weighting of 0.5.

AP Physics 2 is equivalent to a second-semester college course in algebra-based physics. The course covers fluid mechanics, thermodynamics, electricity and magnetism, waves and optics, and modern (atomic, nuclear and quantum) physics. Similar to Physics and AT Computational Physics, this course will allow students to achieve an in-depth understanding of the above additional topics using hands-on explorations of physics content and inquiry-based instructional strategies. In AP Physics 2, they will build on their existing understandings by using multiple representations of physical processes, solving multi-step problems, and designing investigations. The course is based on six Big Ideas, which encompasses core scientific principles, theories, and processes that cut across traditional boundaries and provide a broad way of thinking about the physical world. Students will be prepared for and strongly encouraged to sit for the AP exam in May.

AP Physics C

ID: 44030 Grade: 11–12 Length: Year

Credit: Physical Science

Prerequisite: Semester I grade of B or higher in AP Physics 1 or AT Computational Physics; or Semester I grade of B+ or higher in Physics, plus completion or concurrent enrollment in AP Calculus AB or AP Calculus BC

Note: This course has a grade point weighting of 0.5.

AP Physics C is a rigorous calculus-based physics course for those students planning on higher studies in science or engineering. It is equivalent to an introductory college-level physics course for science majors. The first semester covers the following topics in Newtonian mechanics: the laws of motion, energy, momentum, oscillations and gravitation. Topics in the second semester include electricity and magnetism: electrostatics (including Gauss's Law), electric circuits, magnetostatics (including Ampere's Law) and electromagnetism (including Faraday's Law) and Maxwell's equations. Students who are successful in this course are prepared to sit for both portions of the AP Physics C examination. Students will be prepared for and strongly encouraged to sit for the AP exam in May.

WORLD LANGUAGES

The SAS World Language program offers instruction in three different languages: Chinese (Mandarin, taught using simplified Chinese characters), French and Spanish. In alignment with our K-12 program philosophy, we believe that the primary purpose of learning another language is to develop the ability to communicate effectively in real-life contexts. The goal of the World Language program, therefore, is to establish an understanding of the respective cultures and to develop language proficiency through a focus on communicative ability - in other words, a focus on what students are able to do with the language, beyond what they know about the language. Courses are taught in the target language beginning in all our Novice courses.

Interpersonal listening and speaking skills are a key component of our program and are the primary focus in our Novice and Intermediate courses, as these are the skills that are most important in the first stages of learning a language. In the Intermediate High and Advanced courses, while students continue to develop their interpersonal listening and speaking skills, increasing attention is given to the development and assessment of the interpretive skills (listening and reading), as well as presentational communication (speaking and writing).

The multi-year courses (e.g., Intermediate, Intermediate High) are designed to allow students to take the time they need to build greater confidence and consistency in their language abilities, while they experience new culturally-rich thematic units over a period of two to three years. Research and past practice have shown this to be the amount of time commonly required in order to achieve the performance targets indicated.

Students who have learned one of the three languages offered at SAS at home or as a second language in a target-language country will be assessed and may be advised to maintain the language on their own.

Two years of study of the same foreign language or the equivalent (e.g., Chinese/French/Spanish: Novice, Intermediate) proficiency is the minimum SAS graduation requirement. Since most colleges and universities include language study as an admission requirement, students are advised to attain at least an Intermediate-Mid level of proficiency. This level is generally acquired in 3-4 years of language study.

SEAL OF BILITERACY

Beginning with the graduating Class of 2019, the high school will offer the Seal of Biliteracy to qualified students. The Seal of Biliteracy serves to certify attainment of biliteracy for students and is awarded on high school diplomas. It is a formal statement of accomplishment and language proficiency, and as of December 1, 2018, high schools in 35 U.S. states offered a Seal of Biliteracy (<http://sealofbiliteracy.org/>).

At SAS, a Seal of Biliteracy is offered in the three languages that are taught here: Mandarin Chinese, French, and Spanish. In order to earn a Seal of Biliteracy at SAS, students must demonstrate a minimum of Intermediate High proficiency in all four skills: reading, writing, listening, and speaking. Proficiency will be gauged using school-determined standardized assessments. Families are responsible for paying any costs associated with taking these assessments. Students who are interested in pursuing the Seal of Biliteracy and who have completed the eleventh grade may submit an application to the SAS Director of World Languages.

SPANISH, FRENCH AND CHINESE

NOVICE

This year-long course is for students who have little or no experience with the language. It provides them with the necessary skills to understand and create meaningful communication from early on in a supportive and rich environment. This course focuses on the development of listening and speaking through interpersonal communication, and the performance exit target is Novice High.

Novice High speakers can manage a number of uncomplicated communicative tasks in straightforward social situations. They can express personal meaning by relying heavily on learned phrases (memorized language) or recombinations of these, as well as respond to simple, direct questions or request for information.

The skills of writing, plus interpretive listening and reading, are also integrated into the course to the extent that they foster the development of students' communicative ability as appropriate to the performance target.

NOVICE COURSES

ID: 45040 Spanish: Novice

ID: 45050 French: Novice

ID: 45060 Chinese: Novice

Grade: 9–12 Length: Year Credit: Language

INTERMEDIATE

This multi-year course is for students who have reached at least a Novice High level of performance in interpersonal listening and speaking. It is possible that students performing at the Novice Mid level could be considered for admission with teacher recommendation.

With differentiation and new culturally rich thematic units each year, teachers engage and support students at whichever stage they are in the proficiency building process. This course focuses on interpersonal listening and speaking, and the performance exit target is Intermediate Mid.

Intermediate Mid speakers are able to successfully handle a variety of uncomplicated communicative tasks in straightforward social situations. They can express their own thoughts and maintain conversations by asking and answering a variety of questions, allowing them to exchange information about family, home, daily activities, interests and personal preferences, as well as physical and social needs, such as food, shopping and travel. This performance target is most commonly achieved over a period of two to three years.

The skills of writing, plus interpretive listening and reading, are also integrated into the course to the extent that they foster the development of students' communicative ability as appropriate to the performance target.

*Intermediate Chinese courses will also include development and assessment of presentational speaking skills.

All Intermediate courses require a recommendation from the student's current language teacher. Students who are new to SAS will be assessed upon their arrival.

INTERMEDIATE COURSES

ID: 45041 Spanish: Intermediate

ID: 45042 Spanish: Intermediate II

ID: 45043 Spanish: Intermediate III

ID: 45051 French: Intermediate

ID: 45052 French: Intermediate II

ID: 45053 French: Intermediate III

ID: 45061 Chinese: Intermediate

ID: 45062 Chinese: Intermediate II

ID: 45063 Chinese: Intermediate III

Grade: 9–12 Length: Year Credit: Language

INTERMEDIATE HIGH

This multi-year course is for students who have reached an Intermediate Mid level of performance in interpersonal listening and speaking. or/and completed the 3 years of Intermediate level course.

With differentiation and new culturally rich thematic units each year, teachers engage and support students at whichever stage they are in the proficiency building process. While this course continues to emphasize interpersonal listening and speaking, interpretive listening and reading, and presentational writing, are more formally developed and assessed. For French and Spanish the performance exit target for each of these skills is Intermediate High. For Chinese, while the performance exit target is Intermediate High in listening and speaking, the exit target for reading and writing is Intermediate Mid.

Intermediate High speakers are able to successfully handle uncomplicated tasks and social situations requiring an exchange of information about their school, recreation, particular interests, and areas of competence. They also demonstrate an increasing ability to express their own ideas about some topics beyond themselves (current events/ issues, matters of public and community interest), and to resolve problems they might encounter in their daily lives. They aim to narrate and describe in three major time frames - present, past, and future - and mostly in connected paragraphs. This

performance target is most commonly achieved over a period of two to three years.

*Intermediate High Chinese courses will also include development and assessment of presentational speaking skills.

All Intermediate High courses require a recommendation from the student's current language teacher. Students who are new to SAS will be assessed upon their arrival.

INTERMEDIATE HIGH COURSES

| | |
|-----------|--------------------------------|
| ID: 45044 | Spanish: Intermediate High |
| ID: 45045 | Spanish: Intermediate High II |
| ID 45046 | Spanish: Intermediate High III |

| | |
|-----------|-------------------------------|
| ID: 45054 | French: Intermediate High |
| ID: 45055 | French: Intermediate High II |
| ID: 45056 | French: Intermediate High III |

| | |
|-----------|--------------------------------|
| ID: 45064 | Chinese: Intermediate High |
| ID: 45065 | Chinese: Intermediate High II |
| ID: 45066 | Chinese: Intermediate High III |

Grade: 9–12 Length: Year Credit: Language

ADVANCED

Advanced-level courses are for students who have reached at least at an Intermediate High performance level in interpersonal listening and speaking, interpretive listening and reading, and presentational writing. They should be able to express themselves orally and in writing in three major time frames - present, past, and future - and mostly in connected paragraphs. As well, they should be able to handle some topics beyond themselves (current events/issues, matters of public and community interest, also history and literature in the Chinese course). These courses focus on all modes of communication - interpersonal, presentational and interpretive - and the performance target is at least Advanced Low for each.

Advanced Low speakers are able to handle a variety of communicative tasks. They are able to participate in most informal and some formal conversations, including some topics related to current events, and matters of public and

community interest. Advanced Low writers can meet basic academic writing needs and compose texts of structured and extended length paragraphs.

All Advanced courses require a recommendation from the student's current language teacher. Students who are new to SAS will be assessed upon their arrival.

On students' transcripts, advanced courses are designated as being equivalent to an honors course, demonstrating fluency across the communicative modes.

Spanish: Advanced

ID: 45047 Grade: 9–12 Length: Year

Credit: Language

Prerequisite: Current teacher recommendation

Advanced Spanish is a one-year advanced-level course offered as an opportunity to further develop language skills. This course will continue to focus on spoken and written expression, including presentational speaking, while developing higher-level comprehension skills through culturally rich thematic units. It will also allow students to gain a deeper understanding and appreciation of Hispanic language and culture (products, practices and perspectives). On students' transcripts, Advanced courses are designated as being equivalent to an honors level course.

Chinese: Advanced

ID: 45070 Grade: 9–12 Length: Year

Credit: Language

Prerequisite: Current teacher recommendation

Advanced Chinese is a one-year advanced-level course offered as an opportunity to further develop language skills. This course will continue to focus on spoken and written expression, including presentational speaking, while developing higher-level comprehension skills through culturally rich thematic units. It will also allow students to gain a deeper understanding and appreciation of Chinese language, history and culture. On students' transcripts, Advanced courses are designated as being equivalent to an honors level course.

ADVANCED STUDIES OPTIONS

AP French Language and Culture

ID: 45023 Grade: 10–12 Length: Year

Credit: Language

Prerequisite: Current teacher recommendation

Note: Beginning in 2019-20, grade 11 students who have completed at least one year in the Intermediate High course will be able to select this course for grade 12 without a teacher recommendation.

Students in grades 9 and 10 will still require a teacher recommendation. This course has a grade point weighting of 0.5.

This AP course is comparable to a fourth semester college course in French. The course prepares students to demonstrate their level of French proficiency with a higher degree of accuracy and fluency across the three communicative modes: spoken and written interpersonal communication; audio, visual and audiovisual interpretive communication; and spoken and written presentational communication. Students will also hone their ability to comprehend and communicate in formal and informal contexts reflective of the richness of Francophone language and cultures. Instructional materials and activities are carefully and strategically adapted from authentic sources to support the linguistic and cultural goals of the course. Students will be prepared for and strongly encouraged to sit for the AP exam in May.

AP Spanish Language and Culture

ID: 45024 Grade: 10–12 Length: Year

Credit: Language

Prerequisite: Current teacher recommendation

Note: Beginning in 2019-20, grade 11 students who have completed at least one year in the Intermediate High course will be able to select this course for grade 12 without a teacher recommendation.

Students in grades 9 and 10 will still require a teacher recommendation. This course has a grade point weighting of 0.5.

This AP course is comparable to a fourth semester college course in Spanish. The course prepares students to demonstrate their level of Spanish proficiency with a higher degree of accuracy and fluency across the three communicative modes: spoken and written interpersonal communication; audio, visual and audiovisual interpretive communication; and spoken and written presentational communication. Students will also hone their ability to comprehend and

communicate in formal and informal contexts reflective of the richness of Hispanic language and cultures. Instructional materials and activities are carefully and strategically adapted from authentic sources to support the linguistic and cultural goals of the course. Students will be prepared for and strongly encouraged to sit for the AP exam in May.

AP Chinese Language and Culture

ID: 45025 Grade: 10–12 Length: Year

Credit: Language

Prerequisite: Current teacher recommendation

Note: Beginning in 2019-20, grade 11 students who have completed at least one year in the Intermediate High course will be able to select this course for grade 12 without a teacher recommendation.

Students in grades 9 and 10 will still require a teacher recommendation. This course has a grade point weighting of 0.5.

AP Chinese is designed to be comparable to fourth semester university courses in Mandarin Chinese. The course prepares students to demonstrate their level of Chinese proficiency across the three communicative modes (interpersonal, interpretive, and presentational) and the five goal areas (communication, cultures, connections, comparisons, and communities). Students are provided with ongoing and varied opportunities to further develop their proficiencies across the full range of language skills within a cultural frame of reference. Materials and activities are adapted from authentic sources to support the linguistic and cultural goals of the course. Both contemporary and historical Chinese culture are explored. Students will be prepared for and strongly encouraged to sit for the AP exam in May.

AT Chinese Language: History

ID: 45029 Grade: 11–12 Length: Year

Credit: Language

Prerequisite: Demonstrated proficiency levels of Advanced Low or higher in all four skills.

Note: The Advanced Topic (AT) designation indicates a course is at university level, putting it at or above the level of a traditional Advanced Placement (AP) course. This course has a grade point weighting of 0.5.

This inquiry and project-based course will provide students with the opportunity to gain deeper understanding of the significance of key historical periods in Chinese history, while developing their advanced Chinese language proficiency.

The course is also designed for students to identify their interests in specific areas of Chinese history and culture and delve into the process of researching, analysing, and reevaluating existing perceptions or stereotypes, to draw their own evidence-based conclusions of the significance of some historical phenomena. Students will be expected to complete a comprehensive project related to their own areas of interest each semester. The course will include an extended essay and oral presentation based on their research to demonstrate the final learning outcomes.

TECHNOLOGY , ELECTIVES AND CAPSTONE

Technology, Electives, and Capstone (TEC) courses prepare students for the real world. Students will develop critical thinking skills, often utilizing hands-on, project-based experiences in these courses. They will have opportunities to explore their own interests while blending core academic course knowledge and applications with authentic, creative demands. Please check the grade level requirements for each course. Some are only open to students in certain grades or those who have met specific prerequisites.

All students must complete the SAS Catalyst Project as a requirement for graduation.

COMPUTER SCIENCE AND DESIGN

Computer Science I

ID: 44518 Grade: 9–12 Length: Semester

Credit: Elective

Prerequisite: Completion of Algebra 1 or Math 8+ or concurrent enrollment/request in Geometry or higher level math class.

This course provides an introduction to coding and computer science principles. Students will use computational thinking strategies to design, write, and test programs in Java (Object-Oriented Programming, serving as an introduction to AP Computer Science), Alice (3D animation and game programming), and to design logic circuits (how computers work at the lowest levels). This hands-on course will give students the opportunity to appreciate and understand the depth at which businesses, engineering, and our daily interactions are dependent on computer science. Students learn by carefully designing a solution (algorithm) to problems, programming, and testing/debugging. This course is designed as an exciting and unthreatening jumping off point for those who want to understand what computer science and programming are all about and how they relate to the technological world in which we live. No prior knowledge of Java or programming is required. Successful completion of the course will fulfill the prerequisite for AP Computer Science.

Mobile Application Development

ID: 44504 Grade: 9–12 Length: Semester

Credit: Elective

Prerequisite: None

This course provides an introduction to coding through visual app building. Students will learn about How to build Mobile Apps using MIT App inventor. In the process, students will learn about building basic apps, making visual games through using a canvas, using databases, and making HTTP requests across the internet. This hands-on course gives students the ability to create their own vision for an app. They will learn about debugging, designing algorithms, and modeling an app. This course will be taught on the introductory level, and requires no previous programming knowledge. Additionally, a specific kind of phone (Android or iOS) is not required to take this course. This course provides a nice introduction into the other various computer science courses offered here.

Graphic Design

ID: 44527 Grade: 10–12 Length: Semester

Credit: Elective

Prerequisite: None

Enjoy sketching, photography, or just tinkering with graphEnjoy sketching, photography, or just tinkering with graphics? Have you ever considered designing your own graphics for social media or even your own font? Graphic design is an integral part of our daily life. From gum wrappers to infographics to the t-shirts people wear, designers create and communicate powerful messages. In this course, students will learn how to inform, persuade, and attract attention by creating and organizing the elements of typography, images, and white space. Classes are a dynamic mixture instruction/ production, lively discussion, computer work, and individual projects. Students will complete a variety of authentic projects that include but are not limited to the design of posters and infographics. They will gain a solid foundation in the use of Adobe Illustrator, Photoshop, and InDesign. This course is a complement to the Journalism and Yearbook courses.

Digital Game Development

ID: 44517 Grade: 10–12 Length: Semester

*Credit: Elective**Prerequisite: None*

Games have been around for a very long time (consider the game Senet played by the ancient Egyptians). Games were used as ways to develop physical skills (consider throwing objects at targets) or training to develop military strategies (chess?) or to simply kill time while waiting for the crops to grow. Of course, creating games, and especially video games, requires more than just an idea of something that would be fun. Designers have to understand the mechanics of games, test the balance of the rules to ensure that all players have an equal opportunity to win, communicate how the game is played, and create the environment that will be used to play the game - whether a board game with dice or a computer. This course will cover the basic game development process, from design process through to playable digital and non-digital games. This will include study of game design mechanics and principles of the game design process (e.g., play balancing, testing), basic computer programming concepts, and concepts and production processes of game related art, including background design, character design, and user interface design. Students will gain a very good sense of the game development process and the various creative and technical aspects involved.

AP Computer Science

ID: 44519 Grade: 10–12 Length: Year

Credit: Elective

Prerequisite: Semester I grade of B or higher in Algebra II/Trig or higher level math course; or a grade of B or higher in Computer Science I; or concurrent enrolment in Algebra II/Trig or Accelerated Math II plus computer science teacher recommendation.

Note: This course has a grade point weighting of 0.25.

AP Computer Science is a full-year course designed to teach the fundamentals of programming with the Java programming language. It is designed as an accelerated first course in computer science or as a course for people who will major in other disciplines requiring significant involvement with computing. Prior knowledge of programming is not essential; although logic, math, and linguistic skills along with a strong core GPA are good indicators of success. AP Computer Science emphasizes programming methodology with

a concentration on problem solving, algorithm development, object oriented programming, and computational thinking principles. A large part of the course is built around the design, creation, and testing of computer programs or parts of programs that correctly solve a given problem. This year-long course is identical to a first semester programming course taught at most universities; therefore, students are expected to commit to a daily schedule of programming and studying activities. Students will be prepared for and strongly encouraged to sit for the AP exam in May.

AT Computer Science: Data Structures

ID: 44540 Grade: 11–12 Length: Year

Credit: Elective

Prerequisite: Semester I grade of B or higher in AP Computer Science.

Note: The Advanced Topic (AT) designation indicates a course is at university level, putting it at or above the level of a traditional Advanced Placement (AP) course. This course has a grade point weighting of 0.5.

This course is a standard college course on algorithms and data structures in an object-oriented environment. The sorting algorithms include selection, insertion, merge, quick, and heap. The data structures include arrays, linked lists, stacks, queues, trees, sets, maps, and graphs. Additional topics include recursion, the Java Collections framework, Big-O analysis, unit testing, and class design. The programming language is Java. Students taking this course should be independent thinkers able to spend a significant amount of time at a computer outside of class. This course goes well beyond the material tested by the College Board's Advanced Placement Computer Science A exam. This course is project-based and very hands-on, and emphasizes a use of real world data whenever possible. The course requires rigorous study and emphasizes in-depth research.

ENGINEERING AND ROBOTICS**Introduction to Robotics**

ID: 46520 Grade: 9–12 Length: Semester

*Credit: Elective**Prerequisite: None*

In this course students will learn new skills

and apply critical thinking to solving concrete problems. Important learning goals of the course are innovation, perseverance, teamwork and communication. The course is divided into three main segments: 1) Codecademy is used to walk students with no experience through basic coding laws and language, using the Python language. 2) Arduinos and additional introductory electronics kits allow students to understand the basics of hardware/software interfacing. Arduinos and their close relatives are at the heart of the hand phone, microwave oven, automobile and airplanes. Using Arduinos leads to a basic understanding of the interaction between hardware and software. 3) VEX robots are approximately one cubic foot in size and are used in an in-class competition - Ken and Barbie Firefighter rescue. Students design, build and drive robots to perform these real-world tasks. A technical poster, technical paper and interviews are required as well.

Robotics Science

ID: 46522/46529 Grade: 9–12
Length: Sem or Year

Credit: Elective
Prerequisite: None

This course teaches and applies learning in the areas of mechanics, electronics, CAD, robotics design, writing, art and marketing. Students meet, network and compete with local and international high schools and universities, at competitions including VEX robotics in Taipei, FRC robotics in Sydney, and MATE robotics in Surabaya, Indonesia. These competitions are “the gold standard” of STEM, and membership on a robotics team provides excellent preparation for students headed to careers in engineering, marketing or science. Students choosing this course may take the course during the fall semester (select 46522), during the spring semester (select 46529), or for the full year (select both). Successful students are those who excel at teamwork, innovation and perseverance. This course may be repeated for credit. Those who have previously taken the course are expected to assume leadership roles and mentor new students. Community service may include mentoring SAS robotics teams in the lower schools. Travel to out-of-country competition is optional, and is the financial responsibility of the student.

Engineering Science: Design, Build, & Transform

ID: 44012 Grade: 10–12 Length: Year

Credit: Elective
Prerequisite: None

In this class students assume the role of designer-makers and learn to apply the design process to an increasingly difficult series of challenges. Collaboratively taught, this class will interest students wanting the opportunity to learn by tackling real problems within fields of study such as sustainable housing, transportation, community infrastructure and energy. Students approach learning through creative problem solving and activities that retain a sense of playful exploration. Semester one includes a deep dive into the design process; prototyping and computer aided design (Sketchup) as well as exploratory work with tools such as Lego, Rube Goldbergs, folding techniques and 3D printing. Activities will strengthen basic skills in fabrication, collaboration, project management and underlying scientific concepts. In the second semester student teams will be given guidance and opportunities to apply their skills to an authentic challenge and will work collaboratively to realize a solution of sufficient scale and complexity.

BUSINESS AND FINANCE

Business

ID: 46524 Grade: 10–12 Length: Semester

Credit: Elective
Prerequisite: None
Note: This course does not meet the NCAA Division I core course requirement for social studies. See counselor for details.

This course will explore the world of modern business through project-based learning. The course will guide students through the essential activities of an enterprise, including finance and accounting, human resources, operations, and marketing. Students will become critical thinkers, analyzing, discussing, and solving real-world business case problems. Students also improve their written and oral communication skills in authentic settings when reporting their solutions to business cases. Students will polish their technology skills by authentically using computers skills as business people would: preparing presentations, calculating, preparing, and analyzing quantitative data in Excel, and

creating marketing materials using image and video manipulation tools. The course is designed for those who would like a better understanding the world of commerce or hope to one day join the business field.

Business of Sports (APEX)

ID: 48040 Grade: 10–12 Length: Semester

Credit: Elective

Prerequisite: None

The APEX course focuses on the qualitative and quantitative aspects of our present facility in terms of planning and projection into the next few years. Students will study possibilities such as how to make the facility self-sustainable, the art of marketing the product, how to connect with stakeholders, and fundraising techniques. Students will learn hands-on techniques designed to make the entire SAS community aware of this futuristic project as we work toward our ultimate goal of a student-administered APEX. Assessments will center on project-based learning and group work. Thoughtful introspection and long termed goal-oriented students are needed, as learning will deviate from ordinary classroom situations. Good writing skills and public speaking experience are a plus.

Personal Finance: You and Your Money

ID: 46531 Grade: 10–12 Length: Semester

Credit: Elective

Prerequisite: None

Few high school and college graduates are financially literate when they first enter the workforce. This course gives students an advantage in the real world by developing their financial literacy. Students will learn that high salaries don't guarantee future wealth unless earnings are properly managed. Students will learn to manage their money through responsible spending and investing habits. In this course students will track their own daily spending from the first day of the class and explore the merits of careful consumption and effective investing through a series of project-based discoveries. Please see Social Studies for other business and entrepreneurship offerings.

AT Entrepreneurship

ID: 46560 Grade: 10–12 Length: Semester

Credit: Elective

Prerequisite: Semester 1 grade of A or better in World History/World Studies is required to select this course in grade 10; a B or higher in a 10th or 11th grade social studies course is required to select this course in grades 11 or 12, or current teacher recommendation.

Note: The Advanced Topic (AT) designation indicates a course is at university level, putting it at or above the level of a traditional Advanced Placement (AP) course. This course has a grade point weighting of 0.5.

Entrepreneurship provides real world, hands-on learning on what it's like to actually start a company. The goal is to give students a framework to test the business model of a startup while creating all of the pressures and demands of the real world in an early stage start up. They will learn marketing, finance, and other business disciplines, while also acquiring organizational skills such as time management and leadership development. The class is also a vehicle to develop character, intellect, and resilience in students. Students start the semester with an immediate immersion into the Lean Startup methodology adopted from University of California Berkeley and Design Thinking techniques from Stanford University. As students develop skills through working in the field, observing and interviewing to discover problems, and learning techniques for validating hypotheses they learn by doing, through real world problems and collaborating with real entrepreneurs. Students work with carefully selected Singapore entrepreneurs, who present real and urgent business problems with hard deliverables and deadlines. Students learn processes including customer development, agile development and rapid prototyping. Throughout the course, students will learn to problem solve, think critically, make well-informed decisions, communicate effectively, and engage in productive and successful team work. In the final portion of the course, students use everything they've learned about entrepreneurship and group work to launch their own startups. The course requires rigorous study and emphasizes in-depth research.

JOURNALISM AND MEDIA OPTIONS

Journalism: Newspaper

ID: 46400 Grade: 10–12 Length: Year

Credit: Elective

Prerequisite: None

The Eye is the online student voice of Singapore American School. Production of our high school newspaper is entirely managed through this class made up of a wide range of students with various degrees of experience in investigative journalism, news reporting, editorial writing, and documentary filmmaking. While student assessment is based on individual performance and output, students (or, rather, staff members) elect and work directly with an editorial leadership team to create and publish our collective commentary on events, trends, and points of student interest resonating within the school or around the world. Staff members choose from a diverse range of topics and areas of focus, though all must tackle both written and media-heavy news pieces and show diversity in their approaches to investigation, interviewing, ethical reporting, drafting and editing persuasive prose, and engaging our audience with the visual delivery of their contributions to The Eye. Journalism may require weekend and out-of-class hours to cover emerging stories. This course is open to all interested students in grades 10-12 and may be repeated for credit.

Journalism: Yearbook

ID: 46401 Grade: 9–12 Length: Year

Credit: Elective

Prerequisite: None

Note: Limited enrollment. Priority will go to students who have completed a graphic design course or have equivalent knowledge.

Enjoy research, writing, photography and/or layout design? Want to apply academic skills to real-world assignments? Ever dreamed of seeing your work in print? Then join the class that creates the Islander, the official photo journalistic publication covering a year in the life of SAS. This course is a dynamic mixture of hands-on instruction/production, lively discussion, computer and camera work, individual and group projects and adrenaline-pumping deadlines. In addition to learning yearbook publishing skills, students will also develop a sense of time management, workplace ethics and leadership finesse. Some after school and weekend hours are required to

cover school events and meet deadlines. Because this course has limited enrollment and requires a certain number of students in each of the four grades, some students requesting the course may not be able to take it. This course may be repeated for credit.

AP CAPSTONE AND CATALYST

AT Seminar

ID: 48520 Grade: 10–12 Length: Year

Credit: Elective

Prerequisite: Semester I grade of A or higher in both English 9 and World History, or Semester I grade of A or higher in World Studies is required to select this course in grade 10. Semester 1 grade of B+ or higher in English 10/American Studies is required to select this course in grade 11.

Note: AT Seminar requires independence, self-regulation and time management to be successful. Please see the TEC department chair if you have questions. The Advanced Topic (AT) designation indicates a course is at university level, putting it at or above the level of a traditional Advanced Placement (AP) course. This course has a grade point weighting of 0.5.

The AT Seminar course is an inquiry-driven course that engages students in cross-curricular conversations that explore real-world topics and issues from multiple perspectives. Students learn to collect and analyze information with accuracy and precision in order to craft and communicate evidence-based arguments. Students also work collaboratively to submit a team project. The AT Seminar is year one of the AT Research & Catalyst program; merging the AT Seminar/ AT Research program with the Catalyst project allows students to reflect on their passions and strengths while they develop the skills that help them to think and write academically. Upon completion of the AT Seminar, students will be prepared for a research, performance, or innovation-based AT Research & Catalyst experience the following academic year. This course has fully adopted the AP Seminar curriculum, and therefore, students will be eligible to take the AP Seminar exam in preparation for earning the AP Capstone Diploma. The course requires rigorous study and emphasizes in-depth research. AT Seminar requires independence, self-regulation, and time management to be successful.

AT Research & Catalyst

ID: 48515 Grade: 11–12 Length: Year

*Credit: Elective**Prerequisite: Semester I grade of B or higher in AP Seminar or AT Seminar.**Note: Completing this course is one of the ways in which a student may fulfill the Catalyst graduation requirement.**Note: The Advanced Topic (AT) designation indicates a course is at university level, putting it at or above the level of a traditional Advanced Placement (AP) course. This course has a grade point weighting of 0.5.*

AT Research & Catalyst allows students to deeply explore an academic topic, problem, or issue of individual interest with the expectation of producing both a university level research paper and a meaningful Catalyst project. For example, students can dig deeper into a topic studied in an AP or AT course, work across academic areas on an interdisciplinary topic or study a new discipline of interest, perhaps one a student would like to study in college. The course begins with students developing a greater sense of self by generating a learning profile, a SMART goal, and a project framework. As they explore their interests, students design, plan, and conduct qualitative and/or quantitative research and choose a methodology to address a potential research question. Ultimately, students hone in on a driving question and work on an independent research project. Students utilize the desired student learning outcomes (DSLOs) as they document their processes and curate their scholarly work in a portfolio. In addition, students will be guided to operationalize their personal networks in order to establish mentorships and other forms of experiential network-based learning (collaborative research studies, internships, etc.) The course culminates in an academic paper of approximately 5000 words, an oral defense presentation of their research, and an exhibition of their Catalyst project. This course has fully adopted the AP Research curriculum, and therefore, students will be eligible to take the AP Research exam in preparation for earning the AP Capstone Diploma. The course requires rigorous study and emphasizes in-depth research.

The SAS Catalyst Project

ID: 48509/48510 Grade: 11–12 Length: Semester

*Credit: Elective**Prerequisite: None**Note: Completing this course is one of the ways in which a student may fulfill the Catalyst graduation requirement. Juniors who wish to take this course in the first semester of their junior year should speak with the Catalyst Coordinator., Dr. Steigerwald*

The SAS Catalyst project represents the culmination of personalized learning where students are provided guidance, resources, and flexible scheduling to explore interests and pursue passions. Teachers act as “guides on the side” for students where learning is differentiated for each student based on their interest, readiness, and learning profile. The desired student learning outcomes (DSLOs) of communication, collaboration, critical thinking, and creativity are emphasized, developed, and assessed. As students design, plan, and conduct their projects, they will focus on producing a tangible outcome and encouraged to dive deep into relevant content and knowledge. Often, students experience real world learning and problem solving in authentic contexts (e.g., interviews, work study, scientific research, internships). Students will be taught how to employ the rich regional and global professional network, starting with working with a mentor from a respective field or profession. The project scope is limited only by the student’s imagination. Students who have a strong interest in a particular project may complete the Catalyst project as a junior. This would be especially true for students who are planning a heavier senior course load.

INDEPENDENT AND ONLINE**Independent Learning**

ID: 49013 Grade: 11–12 Length: Semester

*Credit: Elective**Prerequisite: Students will be required to provide additional information and have their learning plan approved after the course selection process ends.*

The Independent Learning option is designed so that students can study a topic or learn in an area in which no course is available or for students to pursue work experience programs like internships, externships, or employment that is supervised by SAS. Rising juniors and seniors should select the six traditional SAS classes, with the independent course as a seventh course. For the

independent learning option to be listed on the SAS transcript, it must be reviewed and approved by the Center for Innovation Coordinator, Dennis Steigerwald, by the start of the semester and must be completed by the end of the semester. Successful completion would provide one-half credit per semester and be listed on the transcript as a P (Pass). The course is not included in the SAS GPA. In order to ensure that students benefit from the full academic program offered at SAS, an independent activity could not be used to fulfill SAS subject area graduation requirements. Further information about independent learning options is available from the Coordinator of the Center for Innovation.

GOA Online Learning

ID: 48600 (S1) 48601 (S2) Grade: 11–12
Length: Semester

Credit: Elective

Prerequisite: Students must meet and have their learning plan approved by the SAS GOA Site Director.

SAS is a member of the Global Online Academy (GOA), a consortium of the top independent schools from around the world. Through this program a limited number of SAS students work closely with peers and teachers from the U.S. and other international schools in online coursework. This individual and flexible online learning opportunity will challenge students to further develop cultural competence and global citizenship skills. Students who would like to complete specialized learning options beyond SAS's course offerings may choose to enroll in a one-semester or year-long online course through GOA. Specific GOA Course options are displayed in a table below. Students interested in GOA courses should select the "GOA Online Course" option during the SAS online course request process in the spring. Once a GOA course is selected, the student is committed to completing the course. Unlike traditional SAS courses, GOA courses cannot be changed during the add/drop period at the beginning of a semester. In addition, students should note that collaboration with peers and teachers is an essential component of many GOA courses, and students will be expected to manage collaboration and communication across time zones. The SAS GOA Site Director, Mr. Paul Welsh, will contact students to assist them through the process of signing up for a specific course through GOA. Students in grades 11 and 12 may complete a maximum of one credit per year through GOA, with the GOA course replacing one of the six or seven courses that a student

would ordinarily take during the academic year. Students are encouraged to select a course that allows them to follow their interests or passions and goes beyond the options available at SAS. Credits earned through GOA could be used to fulfill minimum number of SAS credits required for graduation, but would not fulfill department specific minimum requirements (except in the case of the World Language options). The GOA transcript will become a part of the student's official academic record. To earn a credit, the course must be completed prior to the final day of the semester; otherwise the course will be listed as an F. On the SAS transcript, the course will be listed as "GOA Online Course" with a P (pass) grade and 0.5 credit per semester. The grade will not be included in the calculation of an SAS grade point average (GPA). The GOA transcript, including the actual grades, will be sent to colleges as an additional page of the SAS transcript. While students are encouraged to enhance their learning through other online learning opportunities and report details on university applications, only GOA courses will be listed on the SAS transcript.

GOA COURSE OPTIONS

The GOA courses listed below are available for SAS students. For comprehensive information on the length of course, which semester the course is offered, and details please consult the GOA online course catalogue at <https://globalonlineacademy.org/what-we-do/student-program/student-courses>.

ART, MEDIA, AND DESIGN

Advocacy: This skills-based course will explore the creativity, effort, and diversity of techniques required to change people's minds and motivate them to act.

Architecture: In this course, students will explore the architecture, engineering, and construction of some of the most important buildings from human history. Students will be encouraged to build models of elements of these structures to better understand the construction and engineering behind their design.

Poetry Writing: This poetry-writing workshop explores identity and seeks to answer the question How are you shaped (or not) by the community you live in?

MATHEMATICS AND TECHNOLOGY

Computer Science II: Analyzing Data with Python: In this course, students will utilize the Python programming language to read, manipulate, and analyze data.

Game Theory: Do you play games? Ever wonder if you're using "the right" strategy? What makes one strategy better than another? In this course, we'll explore a branch of mathematics known as game theory, which answers these questions and many more.

iOS App Design: Learn how to build apps for the iPod, iPhone, and iPad and publish them in the App Store.

Number Theory: Once thought of as the purest but least applicable part of mathematics, number theory is now by far the most commonly applied: every one of the millions of secure internet transmissions occurring each second is encrypted using ideas from number theory.

SCIENCE AND HEALTH

Abnormal Psychology: This course focuses on psychiatric disorders such as schizophrenia, character disorders, anxiety disorders, substance abuse, and depression. As students examine these and other disorders they will learn about their symptoms, diagnoses, and treatments.

Bioethics: Ethics is the study of what one should do as an individual and as a member of society. In this course, students will evaluate ethical issues related to medicine and the life sciences.

Global Health: What makes people sick? What social and political factors lead to the health disparities we see both within our own community and on a global scale? What are the biggest challenges in global health and how might they be met? Using an interdisciplinary approach to address these questions, this course hopes to improve students' health literacy through an examination of the most significant public-health challenges facing today's global population.

Medical Problem Solving I: In this course, students will collaboratively solve medical mystery cases, similar to the approach used in many medical schools. Students enhance their critical thinking skills as they examine data, draw conclusions, diagnose, and treat patients.

Medical Problem Solving II: This course is an extension of the problem-based learning done in Medical Problem Solving I. While collaborative examination of medical case studies will remain the core work of the course, students will tackle more complex cases and explore new topics in medical science.

Neuropsychology: This course is an exploration of the neurological basis of behavior. It will cover basic brain anatomy and function as well as cognitive and behavioral disorders from a neurobiological perspective.

Positive Psychology: What is a meaningful, happy, and fulfilling life? In this course, we'll dive into what positive psychology research tells us about the formula for a meaningful life, the ingredients of fulfilling relationships, and changes that occur in the brain when inspired by music, visual art, physical activity, and more.

SOCIAL SCIENCES

(New) International Relations: Are China and the U.S. on a collision course for war? Can the Israelis and Palestinians find a two-state solution in holy land? Will North Korea launch a nuclear weapon? Can India and Pakistan share the subcontinent in peace? These questions dominate global headlines and our daily news feeds. In this course, you will go beyond the soundbites and menacing headlines to explore the context, causes, and consequences of the most pressing global issues of our time. Through case studies, you will explore the dynamics of international relations and the complex interplay of war and peace, conflict and cooperation, and security and human rights. Working with classmates from around the world, you will also identify and model ways to prevent, mediate, and resolve some of the most pressing global conflicts.

9/11 in a Global Context: This skills-based course will explore the creativity, effort, and diversity of techniques required to change people's minds and motivate them to act.

Applying Philosophy to Modern Global Issues: This is an applied philosophy course that connects pressing contemporary issues with broad-range philosophical ideas and controversies, drawn from multiple traditions and many centuries.

Climate Change and Global Inequality: Through investigating historical, economic, political, and environmental perspectives on energy concepts

and controversies, students develop a keen ability to understand and analyze global questions surrounding energy consumption and distribution.

Gender Studies: This course uses the concept of gender to examine a range of topics and disciplines that might include: feminism, gay and lesbian studies, women's studies, popular culture, and politics.

Genocide and Human Rights: Students in this course study several of the major genocides of the 20th century (Armenian, the Holocaust, Cambodian, and Rwandan), analyze the role of the international community in responding to and preventing further genocides (with particular attention to the Nuremberg tribunals), and examine current human rights crises around the world.

(New) Introduction to Legal Thinking: Inspired by GOA's popular Medical Problem Solving series, this course uses a case-based approach to give students a practical look into the professional lives of lawyers and legal thinking. By studying and debating a series of real legal cases, students will sharpen their ability to think like lawyers who research, write and speak persuasively. The course will focus on problems that lawyers encounter in daily practice, and on the rules of professional conduct case law. In addition to practicing writing legal briefs, advising fictional clients and preparing opening and closing statements for trial, students will approach such questions as the law and equity, the concept of justice, jurisprudence and legal ethics.

(New) Race & Society: What is race? Is it something we're born with? Is it an idea that society imposes on us? An identity we perform? A privilege we benefit from? Does our own culture's conception of race mirror those found in other parts of the world? These are just a few of the questions that students in this course will explore together as they approach the concept of race as a social construct that shapes and is shaped by societies and cultures in very real ways. Throughout the course students will learn about the changing relationship between race and society across time and across cultures. Engaging with readings, films, and speakers from a variety of academic fields (history, sociology, anthropology, literature) students will explore, research, reflect on and discuss the complex set of relationships governing race and society.

Prisons and the Criminal Law: In this course, students become familiar with the legal rules and institutions that determine who goes to prison, and for how long.

WORLD LANGUAGES

Arabic Language Through Culture I: Through study of Levantine (Jordanian) Arabic and the Arabic writing system, students develop Novice proficiency in interpersonal communication. Students will be able to communicate in spontaneous spoken conversations on very familiar and everyday topics, including personal introductions, families, daily routines, and preferences, using a variety of practiced or memorized words, phrases, simple sentences, and questions.

Arabic Language Through Culture II: Arabic II students have one year of Arabic Language Through Culture or have demonstrated Novice proficiency through summer coursework or other experiences. Students will communicate in spontaneous spoken conversations on familiar topics, including food, weather, and hobbies, using a variety of practiced or memorized words, phrases, simple sentences, and questions.

Arabic Language Through Culture III: Students in Arabic III have demonstrated Intermediate interpersonal proficiency in Arabic (MSA or a dialect) through two years in Arabic Language Through Culture or other coursework, and have demonstrated an ability to work online independently and reliably with instructors and peers in Arabic Language Through Culture or another GOA class. Students in Arabic III will have opportunities to direct their own study through choice of material and topic. They will use Arabic to interact with native speakers on topics of their choosing and to explore topics of interest through a variety of media (written works, audio, video, face-to-face interviews).

Japanese Language Through Culture I: This full-year course is a unique combination of Japanese culture and language, weaving cultural comparison with the study of basic Japanese language and grammar. While examining various cultural topics such as literature, art, lifestyle and economy, students learn the basics of the Japanese writing system (Hiragana and Katakana), grammar and vocabulary. Through varied synchronous and asynchronous assignments, including hands-on projects and face-to-face communications, students develop their speaking, listening,

reading and writing skills. The cultural study and discussions are conducted in English, with topics alternating every two to three weeks. The ultimate goal of this course is to raise awareness and appreciation of different cultures through learning the basics of the Japanese language. The focus of this course is 60 percent on language and 40 percent on culture. This course is appropriate for beginner-level students.

Japanese Language Through Culture II:

Through language learning, students in this course share their voices, cultivate global perspectives, and foster appreciation of self and others. Students expand their knowledge of the basic skills introduced in Japanese Language Through Culture I while further developing their speaking, listening, writing, and reading skills. Each unit follows the IPA model (Integrated Performance Assessment), blending three modes of communication: interpretation of authentic material in Japanese, synchronous and asynchronous practice in speaking and writing, and oral and written presentations. Each unit focuses on one of the following cultural topics: Design and Expression, Ecology, Entertainment, East meets West, Harmony, and Nature. In addition, students will have the opportunity to select and pursue topics of their own interest. Grammar topics will cover the essential forms that are typically introduced in the second and third year of a high school Japanese program. By learning the Dictionary Form, Nominalizer, TE form, TA form, NAI form, and Noun Modifier, students are able to add more complexity to their sentence construction. In doing so, they shift from forming simple sentences to communicating in a coherent paragraph. As online learners, students are expected to exhibit superb time management and communication skills, as well as take ownership of their learning. While grammar instruction will be delivered through asynchronous work and face-to-face meetings, much of the course content will be curated and created by students through their research and collaboration. The focus of this course is 60 percent on language and 40 percent on culture. Prerequisite: Japanese Language Through Culture I or permission from the instructor.

(New) Japanese Language Through Culture III:

Students in Japanese III have mastered most of the conjugation patterns (TE/TA form, dictionary form, and NAI form) that are necessary to speak and write in complex structures. While advancing their grammatical knowledge (including giving and receiving, potential form, and honorific form), students will compare and examine similar functions and their subtle differences. In speaking, students are allowed to speak in informal/casual style with each other and with the teacher in order to solidify their control of the Plain Form. Interpersonal communications will be done through face-to-face conversation and recorded messages. In reading and listening, students will curate, share, and practice with grasping the gist of authentic materials. Such material may include TV commercials, news, movies, children's books, online newspapers, and cooking recipes. In writing, students will work on creative writing, expository writing, and analytical writing (compare-and-contrast in the AP format). Semester 1 will incorporate JLPT N5 exam material. Taking the exam is not necessary but encouraged. In Semester 2, students will participate in that GOA Catalyst Conference.

VISUAL & PERFORMING ARTS

SAS offers a number of options in the visual and performing arts to meet the needs and interests of all students.

The comprehensive visual arts program will appeal to students interested in art courses that enrich their high school experience, as well as those students who intend to pursue art careers. Courses available cover a broad range of skills that promote innovation using a variety of traditional and digital media.

In the performing arts, students are offered courses in instrumental and vocal music, dance, and theater. These classes and ensembles are geared for every level of experience and ability. Beginning and advanced courses give students superb performance opportunities with specialty classes available for students with greater interest in music. So that performing ensembles can best meet the needs of all students, some courses require an audition prior to enrollment.

VISUAL ARTS

Art I: Foundations

ID: 46100 Grade: 9–12 Length: Semester

Credit: Visual/Performing Arts
Prerequisite: None

In this survey course students are exposed to a variety of media through study of the elements and principles of art and design. Students acquire and apply skills using a variety of media and techniques. Pencil, charcoal, colored pencil, various paints, sculptural materials and linoleum for printmaking are examples of media offered to students. Emphasis is placed on skills acquisition and creativity. This course enables students to identify their strengths and possible areas of interest for future development. It provides the necessary foundation for the more advanced Studio Art courses.

Ceramics I

ID: 46104 Grade: 9–12 Length: Semester

Credit: Visual/Performing Arts
Prerequisite: None

In this one-semester course students learn basic hand building, decorating and glazing techniques. Students are free to develop their own ideas within structured guidelines while building on

acquired skills. Students leave the class with an assortment of forms of different functions, shapes, and sizes. Instructional time is also spent on sculptural pieces. Students are responsible for preparing their materials and looking after their pieces through the various stages of the ceramic process from construction through glazing. A brief introduction to the potter's wheel and glaze chemistry will be given as a part of this course but will not be the focus. This course is a prerequisite for students who wish to continue on to learn potter's wheel techniques in Ceramics II.

Ceramics II

ID: 46105 Grade: 9–12 Length: Semester

Credit: Visual/Performing Arts
Prerequisite: Ceramics I

This class builds on the skills acquired in the Ceramics I class. Students will work towards further mastering basic hand building and may choose to learn wheel throwing techniques on the potter's wheel. A focus on modern ceramic art as it exists today will be the focus of cultural investigation. Students will be given design and glaze chemistry problems to solve using skills and innovation for developing self-expression. They are responsible for maintaining the ceramic supplies needed and for managing the clay process from construction through glazing.

Studio Art

ID: 46106 Grade: 10–12 Length: Year

Credit: Visual/Performing Arts
Prerequisite: Art Foundations; or acceptable portfolio (Teacher Recommendation).

In this course students are provided with the opportunity to further develop their artistic abilities and interests by honing their drawing and painting skills. They find and build upon their strengths in a variety of media within each unit. Students are exposed to a broad spectrum of art styles allowing each student to find and develop his or her particular area or areas of interest. Finding voice in their work and making connections both culturally and personally are a focus throughout the course. Students work to achieve higher levels of proficiency in art. Studio Art is a Pre-AP course. The work created prepares students for Advanced Placement courses.

Mixed Media & Digital Processes

ID: 46108 Grade: 9–12 Length: Semester

*Credit: Visual/Performing Arts**Prerequisite: None**Note: This course was previously named Printmaking & Mixed Media. If a credit was earned in that course, you cannot retake it under this new title.*

This course is designed for students of all levels who are interested in experimenting with and combining a variety of materials and art processes. Students will explore a range of layering processes to create rich textures using techniques in painting, drawing, printmaking, collage, and photography to manipulate the surface of their work. Students will also learn to use Adobe Photoshop to edit, manipulate, and composite photo imagery to be printed and integrated into their mixed media surfaces. This course enables students to identify their strengths and possible areas of interest for portfolio development.

AP Drawing

ID: 46111 Grade: 10–12 Length: Year

*Credit: Visual/Performing Arts**Prerequisite: Studio Art; or acceptable portfolio, plus teacher recommendation.**Note: This course has a grade point weighting of 0.5.*

The Drawing portfolio is designed to address a very broad interpretation of drawing issues and media. Light and shade, line quality, rendering of form, composition, surface manipulation, and illusion of depth are drawing issues that can be addressed through a variety of means, which could include painting, printmaking, mixed media, etc. Abstract, observational and inventive works may demonstrate drawing competence. The range of marks used to make drawings, the arrangement of those marks, and the materials used to make the marks are endless. Photography, videotapes, digital imaging, photocopies of work, and three-dimensional work may not be submitted for the Drawing Portfolio. Students will be prepared for and strongly encouraged to sit for the AP exam in May.

AP 2-D Art and Design

ID: 46112 Grade: 10–12 Length: Year

*Credit: Visual/Performing Arts**Prerequisite: Studio Art; or acceptable portfolio, plus teacher recommendation.**Note: This course has a grade point weighting of 0.5.*

This portfolio is intended to address two - dimensional (2D) design issues. Design involves purposeful decision making about how to use the elements and principles of art in an integrated way. The principles of design articulated through the visual elements help guide artists in making decisions about how to organize the elements on a picture plane in order to communicate content. Strong design is possible whether one uses representational, abstract, or expressive approaches to make art. For this portfolio, students are asked to demonstrate mastery of 2D design through any two - dimensional medium or process, including but not limited to, graphic design, digital imaging, photography, collage, fabric design, weaving, illustration, painting and printmaking. Students will be prepared for and strongly encouraged to sit for the AP exam in May.

AP 3-D Art and Design

ID: 46113 Grade: 10–12 Length: Year

*Credit: Visual/Performing Arts**Prerequisite: Studio Art; or acceptable portfolio, plus teacher recommendation.**Note: This course has a grade point weighting of 0.5.*

This portfolio is intended to address sculptural issues. Design involves purposeful decision-making about using the elements and principals of art in an integrative way. In the 3D Design portfolio, students are asked to demonstrate their understanding of design principles as they relate to depth and space. The principles of design (unity/variety, balance, emphasis, contrast, rhythm, repetition, proportion/scale, figure/ground relationship) can be articulated through visual elements (mass, volume, color/light, form, plane, line, texture). For this portfolio, students are asked to demonstrate mastery of 3D design through any three-dimensional approach, including, figurative or non-figurative sculpture, architectural models, metal work, ceramics, and three-dimensional fiber arts. Students will be prepared for and strongly encouraged to sit for the AP exam in May.

THEATER

Stagecraft

ID: 46544 Grade: 9–12 Length: Semester

Credit: Visual/Performing Arts

Prerequisite: None

Stagecraft covers the technical aspects of theater productions. Student assignments and projects will involve three topic areas: set design and construction, stage lighting, and theater sound systems. Projects in each of these areas will provide students with knowledge and hands on experience with technical equipment used in theaters. All student work that involves construction and work with electrical equipment will include proper safety instruction. All students must follow safety guidelines. This course can be repeated for credit.

Theater: Foundations

ID: 46307 Grade: 9–12 Length: Semester

Credit: Visual/Performing Arts

Prerequisite: None

The ensemble is the foundation supporting all our work in theater. Students engage in wide variety of ensemble and theater exercises throughout the semester. They develop fundamental acting skills through scene work and acting exercises. Actor training focuses on realism, which has as its goal truthful behavior under imaginary circumstances.

Theater: Improvisation

ID: 46310 Grade: 9–12 Length: Semester

Credit: Visual/Performing Arts

Prerequisite: None

Improv performers do not just 'make it all up' on the spot. There are skills and structures that provide the springboard for entertaining improvisation. Students will develop these skills and improv 'forms' in a workshop process emphasizing collaboration and play. Particular focus will be placed on those forms which lead to "long form" performance. (See the course description for Advanced Improvisation for more information about "long form".)

Theater: Production

ID: 46313 Grade: 10–12 Length: Semester II

Credit: Visual/Performing Arts

Prerequisite: Any Theater course

Students work in small and full-class ensembles devising, rehearsing, and performing theater for a public audience. This course prepares students and is the prerequisite for the AT Performing Arts: Theater course. A few after-school rehearsals may be required. This course can be repeated for credit.

Theater: Advanced Improvisation

ID: 46314 Grade: 10–12 Length: Semester

Credit: Visual/Performing Arts

Prerequisite: Theater: Improvisation

Building on skills learned in Improv, students will work towards a 'long form' performance. The ensemble improvises a 20-30 minute set based on a single prompt from the audience. Long form relies more heavily on acting skills, ensemble memory and active listening than short forms. Long form ensembles represent the 'cutting edge' in today's Improv subculture. This course can be repeated for credit.

Film/Acting Ensemble

ID: 46315 Grade: 10–12 Length: Semester

Credit: Visual/Performing Arts

Prerequisite: Any Theater or Filmmaking course

In this course, students form a collaborative ensemble to create short films for entry in film contests. Students will focus on either the performance or the technical aspects of filmmaking. Ensembles work together on creating story and dialogue, choosing locations and a variety of other aspects related to the creation of short films.

Theater: Sketch Comedy

ID: 46316 Grade: 10–12 Length: Semester

*Credit: Visual/Performing Arts**Prerequisite: Theater: Improvisation or Theater: Foundations**Note: Offered in 2019-20; may not be offered in 2020-21.*

Students will create sketch comedy scenes for live performance and filming. Students will use improv at every stage and in all aspects of writing sketches. This includes developing characters, finding the funny, exploring relationships, and coming up with a good ending. Students will learn how to make improv the first step in writing a sketch as well as how to use improv to help them move forward when writing has already begun.

Musical Theater: History and Production

ID: 46226 Grade: 9–12 Length: Semester II

*Credit: Visual/Performing Arts**Prerequisite: None**Note: Offered in 2019-20; may not be offered in 2020-21.*

This course provides an in-depth study and practical application of musical theater. Students will research, rehearse and perform material from the musical theater genre. In the first quarter the students will examine examples of Broadway musicals. In the second quarter the students will write, direct, produce and perform original musicals. No prior experience is necessary but students must be willing to try all aspects of the modern musical.

STRINGS**Concert Strings**

ID: 46213 Grade: 9–12 Length: Year

*Credit: Visual/Performing Arts**Prerequisite: Experience with a string instrument**Fee: Performance attire \$50-\$120. Instrument rental at \$150 per year if required.*

Concert Strings is designed to help students with one to three years experience playing a string-instrument to prepare for String Ensemble. This is an ideal setting for the string student who would like to switch instruments (i.e., violin to viola or cello to double bass). Special consideration will be devoted to developing technique, with particular emphasis placed on shifting, facility in the upper positions, developing a mature

vibrato, and more advanced bow technique. Students will be exposed to a wide range of styles, including: classical, folk, jazz and rock. The history of orchestral music, string instruments and the general maintenance of the instrument will also be covered. This course may be repeated each year for credit. All students are required to attend all scheduled performances, including after school or weekends.

String Ensemble

ID: 46209 Grade: 9–12 Length: Year

*Credit: Visual/Performing Arts**Prerequisite: Audition**Fee: Performance attire \$50-\$120. A limited number of instruments are available for rental at \$150 per year*

String Ensemble is for the advanced student who is serious about music performance. Placement in this ensemble is by audition only and will consist of three octave scales, prepared repertoire and sight-reading. Students will improve their individual pedagogy as well as learn about the theory, style and form of music through the study and performance of quality literature. Study with a private tutor is highly recommended for students in this course. Attendance at scheduled performances is required. This course may be repeated for credit.

Chamber Strings

ID: 46229 Grade: 9–12 Length: Year

*Credit: Visual/Performing Arts**Prerequisite: Audition**Fee: Performance attire \$50-\$120. A limited number of instruments are available for rental at \$150 per year*

Chamber Strings is geared for the budding virtuoso who is very serious about music, and wants to take their performance to the highest level (think... "Instrumental Music AP"). The instrumentation for this ensemble will be set at 12 violins, 4 viola, 4 cello and 2 bass. Placement in this prestigious ensemble will be by rigorous audition stressing intonation and musicality. The demanding repertoire will be the catalyst for understanding the stylistic characteristics of music throughout the ages. The smaller size of this group will allow students to strive for a very refined, articulate performance standard, and exploration of the various tone colors possible on a stringed instrument.

INSTRUMENTAL MUSIC

Concert Band

ID: 46202 Grade: 9–12 Length: Year

Credit: Visual/Performing Arts

Prerequisite: Intermediate to advanced ability on a band instrument.

Fee: Performance attire \$50-\$150. A limited number of instruments are available for rental at \$150 per year.

Concert Band is open to all students who have had previous experience on a band instrument. The band will perform in concerts during the year, playing a variety of musical styles ranging from popular to classical. This course may be repeated each year for credit. All Concert Band members are required to attend all scheduled performances, including after school or weekends.

Symphonic Band

ID: 46210 Grade: 9–12 Length: Year

Credit: Visual/Performing Arts

Prerequisite: Audition

Fee: Performance attire \$50-\$150. A limited number of instruments are available for rental at \$150 per year.

Symphonic Band is an audition-based group for intermediate to advanced musicians who wish to challenge their skills with more difficult music. The band will perform in four major concerts during the year, playing a variety of musical styles ranging from popular to classical. This course may be repeated each year for credit. All Symphonic Band members are required to attend all scheduled performances, including after school or weekends.

Wind Ensemble

ID: 46208 Grade: 9–12 Length: Year

Credit: Visual/Performing Arts

Prerequisite: Audition

Fee: Performance attire \$50-\$150. A limited number of instruments are available for rental at \$150 per year.

Wind Ensemble is a very advanced band course for serious musicians who wish to challenge their skills with more difficult music. They play a varied repertoire of classical and popular music and will be encouraged to do solo and small ensemble performances as well. The Wind Ensemble

represents the school in the community through concerts and programs. This course may be repeated each year for additional credit. All Wind Ensemble members are required to attend all scheduled performances, including after school or weekends.

Jazz Improvisation

ID: 46217 Grade: 10–12 Length: Semester I

Credit: Visual/Performing Arts

Prerequisite: Successful audition to Wind Ensemble and teacher recommendation.

Fee: Please see Wind Ensemble

Jazz Improvisation is offered to advanced musicians seeking to further their knowledge and skill in the jazz idiom. Students will study basic chords, scales and patterns used in improvisation, further develop small ensemble and combo playing skills and explore a variety of jazz standards. Students in Jazz Improvisation will perform with both the Wind Ensemble and the HS Jazz Band. This is a fall semester course, and students in Jazz Improvisation will be enrolled in Wind Ensemble during the spring semester. Students interested in enrolling in Jazz Improvisation must audition successfully for Wind Ensemble and subsequently request the approval of the Band Director.

VOCAL MUSIC

Concert Choir - Chorale

ID: 46203/46205 Grade: 9–12

Length: Sem or Year

Credit: Visual/Performing Arts

Prerequisite: None

Fee: Performance attire \$50-\$150

The SAS Chorale is a choir of males and females that will sing a wide variety of choral repertoire both in the large group and in smaller ensembles. Students will advance their skills while learning about different musical styles through music prepared for public performance. From this choral experience, students will develop an excellent level of musicianship and will refine their vocal techniques. The Chorale represents the SAS community through various concerts and programs, sometimes as many as three or four per semester. Chorale members will participate in an annual Choir Festival with a well-known guest conductor. Students choosing this course may take it for just one semester (46203) or for the full year (select both 46203 and 46205). In order to be eligible to audition for SAS Singers, this course

must be taken for the whole year. All Chorale members are required to attend all scheduled performances and rehearsals, including after school or weekends. This course may be repeated for credit.

Choral Ensemble - Chanterie

ID: 46212 Grade: 9–12 Length: Year

Credit: Visual/Performing Arts

Prerequisite: None

Fee: Performance attire S\$50-\$151

The SAS Chanterie is a choir made up of females that will sing a wide variety of choral repertoire both in the large group and in smaller ensembles. Students will advance their skills while learning about different musical styles through music prepared for public performance. From this choral experience, students will develop an excellent level of musicianship and will refine their vocal techniques. The Chanterie represents the SAS community through various concerts and programs, sometimes as many as 3-4 per semester. Chanterie members will have the opportunity to participate in two specific activities of note; 1) The Annual Music Festival with a well-known guest conductor, 2) a collaborative performance with dance and drama classes. All Chanterie members are required to attend all scheduled performances and rehearsals, including after school or weekends. This course may be repeated for credit.

SAS Singers

ID: 46206 Grade: 10–12 Length: Year

Credit: Visual/Performing Arts

Prerequisite: Audition (must also have completed 1 continuous year of SAS high school choir during the year of the audition).

Fee: Performance attire S\$50-\$152

SAS Singers is a small ensemble of selected musicians who wish to participate in a variety of musical performances. They will learn to analyze music, develop choral techniques, recognize musical styles, and demonstrate movement to music (choreography). They will serve as an elite group, singing many genres of music including jazz, popular and madrigal music as well as top-level choral repertoire. Each member will also be expected to function as an integrated chorale within the other two choirs for major classical works. The Singers frequently represent the school in the community, sometimes 5-8 times per semester. SAS Singers have one required

evening rehearsal per week. This course may be repeated for credit.

FILM AND PHOTOGRAPHY

Filmmaking

ID: 46404 Grade: 9–12 Length: Semester

Credit: Visual/Performing Arts

Prerequisite: None

The emphasis in this course is the art and craft of filmmaking as students study and practice the single-camera style used by filmmakers in the production of features and documentaries. Assignments will include readings on film aesthetics and practices and the study of critically acclaimed, early and contemporary films. Practical, hands-on work includes a camera familiarization exercise, a digital-editing exercise, two structured exercises and a final project. Students will write a treatment and script, and prepare a storyboard for the final project. Students will be required to complete work outside of regularly scheduled class meetings. This course may not be repeated for credit.

Advanced Filmmaking

ID: 46406 Grade: 10–12 Length: Semester

Credit: Visual/Performing Arts

Prerequisite: Filmmaking

Students take the skills and experience gained in Filmmaking and work independently to create short films for entry in film festivals. This course may be repeated for credit.

Digital Photography

ID: 46519 Grade: 9–12 Length: Semester

Credit: Visual/Performing Arts

Prerequisite: None

Note: A student owned digital camera is recommended.

This course will introduce students to the limitless possibilities of image making in the digital age. Students will be expected to learn the fundamental concepts and skills related to digital photography and graphic design. This is a project-based course that will require students to integrate the concepts of art and design into a series of assignments that they will create on the computer using Adobe Photoshop software. Students will also learn to use digital cameras, and scanners as image input devices and laser

and color ink jet printers as output devices. Topics will include: digital vs. traditional photography, basic digital image adjustment, advanced digital image manipulation, type and text, composite and photomontage, methods of printing and presentation of digital images. Students will be required to submit prints for exhibition as well as prepare and present a final portfolio of their work at the end of the semester.

Advanced Digital Photography

ID: 46521 Grade: 9–12 Length: Semester

Credit: Visual/Performing Arts

Prerequisite: Digital Photography

Note: Access to a DSLR is recommended.

Advanced Digital Photography is designed as a continuation of the current semester-long Digital Photography course. The purpose of this second course is to provide motivated students with the opportunity to expand on the knowledge and skills they acquired in Digital Photography. This is a project-based course, which seeks to challenge the student's creative and technical skills through the creation of both "straight" and manipulated digital images. Topics to be covered will include advanced digital camera skills using a DSLR camera, advanced Photoshop skills as well as the use of several other digital image and multimedia software. Students will be expected to design a final creative project in a direction and area of their interest. Throughout the course, students will be required to submit prints for exhibition as well as prepare and present a multimedia final portfolio of their work at the end of the semester.

ADDITIONAL MUSIC COURSES

Introduction to Guitar

ID: 46214 Grade: 9–12 Length: Semester

Credit: Visual/Performing Arts

Prerequisite: None

Note: Offered each year. Students should provide their own guitars (preferably a classical instrument); there are a limited number of school instruments available for rent at \$50 per year.

Introduction to Guitar is designed for the beginning guitarist who wants to learn the fundamentals of guitar pedagogy in a classroom setting. Students will be exposed to a wide range of styles, including: classical, folk, jazz and rock. The history of the guitar, what to look for when buying a guitar, along with tuning and general maintenance of the instrument will also be covered.

Students will learn to read standard notation and tablature as well as strategies for reading rhythm patterns. This class will equip students with the skills necessary for a lifetime of enjoyment on this beautiful and practical instrument.

Advanced Guitar

ID: 46218 Grade: 9–12 Length: Semester

Credit: Visual/Performing Arts

Prerequisite: Successful completion of Introduction to Guitar or audition.

Note: Offered each year. Students should provide their own guitars (preferably a classical instrument); there are a limited number of school instruments available for rent at \$50 per year.

Advanced Guitar is a one-semester, elective course offering intermediate to advanced instruction on the guitar. Students in this course will improve their skill in open, power and moveable (barre) chords, using a variety of accompaniment styles. Continued development of right hand technique (pick and finger style) will also be a focus. Students will improve their reading skills in both traditional notation and tablature. Increased knowledge of the guitar finger board will be a main goal for the course, along with the exploration of secondary chords and embellished chords. Students will be exposed to a wide range of quality literature designed to improve overall technique and musicianship. Students will also learn basic digital recording techniques using ProTools and an analogue mixing board. Students will leave this course with a "portfolio" CD of their recorded repertoire.

DANCE

Dance I - Introduction to Dance

ID: 48002 Grade: 9–12 Length: Semester

Credit: PE or Visual/Performing Arts

Prerequisite: None

This course is designed for any student who would like to use dance to develop the physical fitness, confidence, and ability to dance either for fun or as a performer. This course combines fitness, dance technique, and dance choreography. The class is designed to improve physical skills such as posture, strength, flexibility, stamina, and balance, as well as introduce choreographic and improvisational techniques. Students will learn the techniques and vocabulary for various types of dance, including ballet, lyrical, contemporary, jazz and hip hop. Students will incorporate what they

have learned into creative dance choreography. Appropriate injury prevention techniques will be explored along with relevant aspects of anatomy. Students will perform for each other in class and have the option to perform at the semester show. All students are recommended to take Dance 1, even those with previous studio dance experience. Concepts covered within a dance education class are different from what is often covered in a studio technique class, and the two types of classes complement each other beautifully.

Dance II

ID: 48003 Grade: 9–12 Length: Semester

Credit: PE or Visual/Performing Arts

Prerequisite: Dance I; or dance teacher recommendation

Dance II is a course designed for students who have a serious interest in dance and who wish to increase their knowledge and skills. This class provides an intensive approach to skill development, etiquette, discipline, and knowledge of three dance styles: ballet, jazz and modern/contemporary. Each technique class will cater to specific needs and abilities. The semester is broken into three sections, during which each dance style is studied and practiced intensively. Students will also be asked to create a more in-depth piece of choreography that uses more complex choreographic concepts. Students will perform for each other in class and have the option to perform at the semester show.

Dance III

ID: 48004 Grade: 9–12 Length: Semester

Credit: PE or Visual/Performing Arts

Prerequisite: Dance I, plus Dance II or dance teacher recommendation

This course allows students to continue their technical training in dance, while offering them more opportunities to explore choreography. It will also prepare students for the auditions for Dance Performance. Dance III has three major goals: 1) To continue building and strengthening the dancers' technique in a variety of dance forms; 2) The course will also provide an opportunity for dancers to study and discuss and analyze dance history, philosophy and theory concepts to a greater depth; 3) To allow students the opportunity to choreograph longer pieces and pieces for different purposes. These performances will be performed and recorded. There are possibilities for performances outside of the classroom in this

course. This class also provides an opportunity for more advanced dancers to learn the skills needed to teach creative dance classes to their peers and the wider community. Some costs may be incurred for the purchase of costumes and shoes. This course may be repeated for credit.

Dance Performance

ID: 48005 Grade: 10–12 Length: Year

Credit: PE or Visual/Performing Arts

Prerequisite: Audition (must also have completed Dance III and taught in the after-school Middle School Dance Program).

This course is designed for the serious dancer who has had dance training and would like to experience choreographing and performing more intensely. Students will continue learning and working on dance techniques. They will also learn more about choreography, dance design and choreographic devices. They will be expected to work as a team with guidance to teach, stage and direct their own dances for the semester production. Students will be asked to critique and evaluate their own and other dancers' choreography and performances in more depth using appropriate terminology. Students will be expected to rehearse at least three afternoons each week (4:15–6:00 PM), increasing to daily rehearsals prior to the show. They will be expected to attend all scheduled rehearsals and participate in school performances as well as attend community performances. Some costs may be incurred for the purchase of costumes and shoes. This course may be repeated for credit.

ADVANCED OPTIONS

AT Performing Arts

ID: 46325 (Dance) / 46326 (Music) / 46327 (Theater)

Grade: 12 Length: Year

Credit: Visual/Performing Arts

Prerequisite: Completion of three courses in the performance discipline and completion of application process detailed below. Specific strands may also include course pre-requisites.

The Advanced Topic (AT) designation indicates a course is at university level, putting it at or above the level of a traditional Advanced Placement (AP) course. This course has a grade point weighting of 0.5.

This course provides students with opportunities to create and engage with university-level performance experiences. Students working within one of the disciplines of Dance, Drama,

Vocal or Instrumental Music will fulfill requirements specific to that discipline. These include: guided research, exploration of methodologies, development of a performance, and in depth reflection. The application process is as follows: a) students audition as per usual for higher level performance groups by March, b) upon passing the audition, students submit a written application, and c) applicants are vetted by a Performing Arts Teacher panel in April. All applicants must be rising seniors.

There are three strands within AT Performing Arts:

1. The Dance strand is designed for the serious dancer who has had sufficient dance training and would like to study choreography and production aspects more intensely. Students will continue to be part of the Dance Performance class and the two semester production, but will also engage in guided research, exploration of methodologies, development of a performance, and in-depth reflection.
2. The Music strand is for serious music students. AT Music students will expand their group performance experience by performing as an individual and by deepening their skill as music analysts, theorists and historians.
3. The Theater strand requires students to work collaboratively to create a piece of original theater and has a prerequisite of Theater Production. Students will assume positions of leadership in the ensemble: creators, designers, and directors, as well as performers. They will work in ensembles to examine and develop ideas to generate theatrical material for performance. AT Theater students must be enrolled in a theater course both semesters of their senior year.

The course requires rigorous study and emphasizes in-depth research.

PHYSICAL EDUCATION

Students must successfully complete three semester courses in Physical Education (PE). Students may repeat a PE course for an elective credit, but a repeated course may not be used to fulfill the PE graduation requirement. Students may not be enrolled in more than one PE course per semester. All students in physical education classes are required to participate actively in physical fitness, conditioning, and aerobic activities. Students will be assessed regularly on the rules and skills of the sports being taught, as well as on their level of fitness.

Technology is an integral part of the PE curriculum and the department adopts relevant applications as they become available. Due to the special nature of the subject area, the scope reaches beyond the laptop driven research and interaction framework to include specific software such as the Fitness Gram program. Results are linked to age specific scores from North America to provide teachers, students, and parents with a comparison to others.

Video recordings of skills acquisition are also routinely utilized to ensure that students are grasping specific movement patterns inherent in the learning of skills. Heart rate monitors are used so that students and teachers can track real-time fitness levels in many courses. The use of pedometers allows students to ascertain the volume of movement they are involved in daily and stopwatches help to quantify progress.

Field Hockey, Softball, and Modified Golf

ID: 48015 Grade: 9–12 Length: Semester

Credit: Physical Education

Prerequisite: None

This course includes basic instruction in softball, field or floor hockey, and modified golf. In field or floor hockey, students will learn to properly handle the hockey stick and develop the skills of passing, receiving, dribbling, shooting, tackling, and goal keeping. In the softball unit, students will learn the primary skills of softball throwing, catching, running and batting. They will develop skills required to play offensive and defensive positions. Upon completion of the softball and field hockey units, students will be able to employ appropriate strategies in game situations and will demonstrate skill in playing and officiating. At the conclusion of the course, students should be able to play softball and field hockey with

enjoyment and confidence. Golf makes up the final unit of the course, which is designed for both beginners and experienced students. Students will develop many golf skills including hitting off a tee, driving with an iron, chipping, and putting. Time permitting, instruction will be augmented with sessions at a local driving range.

Fitness for the Body and Mind

ID: 48024 Grade: 9–12 Length: Semester

Credit: Physical Education

Prerequisite: None

This course is designed to teach students the process of using exercise to not only challenge the body but also to stimulate the brain. Students will experience various exercise forms such as Yoga, Pilates, Drums Alive, Qi Kung, Tai Chi and other martial art disciplines. Students will challenge their balance, strength, flexibility, coordination and concentration through these disciplines as well as through fusion exercises such as Iron Yoga, Yo Chi, Yoga with stability balls, Pilates with BOSU and TRX. The objective of this course is to seek an alternative route to cognitive development by providing physical and mental challenges that may result in stronger focus, self-discipline, and ultimately, increased self-confidence.

Group Fitness

ID: 48001 Grade: 9–12 Length: Semester

Credit: Physical Education

Prerequisite: None

This course emphasizes strength and fitness conditioning through a variety of group fitness-related exercises and workouts. It is designed to encourage intense and vigorous participation with a focus on the basic foundations of movement. Students will use a variety of fitness tools and equipment, including: BOSU, Kamagon balls, SMART boards, slastix bands, slingshots, suspension trainers, stability balls, medicine balls, slam balls, kettlebells, barbells, dumbbells, sandbells, sandbags, battle ropes, ladders, and hurdles. Students will learn to train like athletes and will learn exercises to increase strength, endurance, coordination, flexibility and balance. Students will use heart monitors to better understand how to maximize their workouts for optimal health. Nutrition, kinesiology and fitness concepts will also be covered to enhance their knowledge of fitness education.

Group Fitness II

ID: 48029 Grade: 9–12 Length: Semester

Credit: Physical Education

Prerequisite: Group Fitness

This course will provide students with the opportunity to get a deeper understanding behind the concepts of Movement Efficiency Training. In addition to applying these concepts for their own personal use, they will be able to safely design training programs for students and adults during class time or through the 'House of Pain', a SAS after-school fitness club. Students will have the opportunity to set up their own training practices, market the program to students or adults, and teach, coach, or train small groups. Valuable information on motivational and cueing techniques, the principles of class design, creating a positive fitness experience, progressions and regressions for multi-level classes, exercise and movement selection, sequencing, choreography, program modifications, music and legal guidelines will also be explored in the course.

Indoor Team Sports

ID: 48009 Grade: 9–12 Length: Semester

Credit: Physical Education

Prerequisite: None

This course is designed to develop and improve ball skills, teamwork, muscular strength and endurance. Students will learn the basic skills, techniques and strategies of volleyball, basketball, team handball and indoor soccer. They will practice these skills in individual and group drill situations. When students have mastered these basic skills, regulation games will be played. Students will be tested on all pertinent theoretical aspects of each activity.

International Sports

ID: 48008 Grade: 9–12 Length: Semester

Credit: Physical Education

Prerequisite: None

This PE course will include the following 4 core disciplines/activities: Tchoukball, cricket, ultimate frisbee, archery. Each of the sports will focus on fundamental movement patterns (i.e. passing & receiving, shooting, batting, running, fielding) designed to make the student competent with regard to the basic skill sets in order to demonstrate and participate in organised play and interclass competition. At the conclusion

of the course, students should be able to play all sports with enjoyment and confidence. A comprehensive skill and written assessment will be administered at the conclusion of each unit, as well as a practical based final exam project at the end of the course.

Climbing and Adventure Training

ID: 48028 Grade: 9–12 Length: Semester

Credit: Physical Education

Prerequisite: None

This course is designed to introduce students to elements of adventure sports and adventure training. Adventure training challenges students in teams and as individuals through games and engineering configurations. The semester starts with trust building activities needed for both the climbing wall and the challenge course. Students will learn different types of knots and safety information needed to participate. Bouldering, belay work, various climbing routes, rappelling and constant communication are skills that will be recurring throughout the semester as we start on the indoor climbing wall and slowly and safely work our way to the high elements on our outdoor ropes course. An added aspect will be a fitness component that will support and enhance the students' endurance, flexibility and strength in order to become more efficient on the wall.

Soccer, Flag Football and Touch Rugby

ID: 48014 Grade: 9–12 Length: Semester

Credit: Physical Education

Prerequisite: None

Through this course students will become knowledgeable about the rules and regulations of soccer, flag football, and touch rugby. In soccer, students will learn to perform skills at a satisfactory ability level, integrate soccer skills into a regular game situation, apply rules and strategies, and also teach skills to the other students. In the flag football unit, students will learn locomotor skills such as running (forward, backwards), shuffling sideways, handing the ball off to another player, throwing, and catching with good biomechanics. Basic offensive and defensive plays and strategies will be explored and implemented in order for the student to fully understand and enjoy the experience of participation in flag football. Students will demonstrate knowledge of, correctly follow, and apply the rules of flag football. In the final unit of this course, coeducational touch rugby will be taught and played.

Racquet Sports

ID: 48016 Grade: 9–12 Length: Semester

*Credit: Physical Education**Prerequisite: None*

This course is designed to expose students to four distinct racquet activities: badminton, table tennis, pickleball (modified indoor paddle tennis), and tennis. The course will focus on stroke development, game analysis and play refinement. Students will work on improving hand-eye coordination and reaction time response. Singles and doubles play strategies will also be presented. Practicing court etiquette, officiating, scoring and participating in round robin or bracket tournaments will conclude the class activities. A comprehensive skill and written assessment will be administered at the conclusion of each unit.

Personal Defense and Combatives

ID: 48027 Grade: 9–12 Length: Semester

*Credit: Physical Education**Prerequisite: None*

This course is designed to expose students to a variety of Mixed Martial Arts-type techniques and strategies that combine stand up and ground work related to personal defense and athletic training. It involves martial arts techniques from disciplines such as boxing, jiu jitsu, judo, krav maga, tae kwon do and wrestling. Students will learn the basic elements of striking, kicking, takedowns, and ground defense work as well as mental strategies in a safe and controlled environment. Additionally students will learn self-defense principles and strategies on how to be safe and aware of potential dangers in their surroundings. The course will include both practical and theoretical work.

Track and Field: Running Events

ID: 48017 Grade: 9–12 Length: Semester

*Credit: Physical Education**Prerequisite: None*

This course will concentrate on the sprints, relays, and middle distance running events. The 100, 200, 400, 800 and 1500 meter distances will be covered as well as the 4 x 100 and 4 x 400 relays. Students will complete the various training methodology for each discipline along with the relevant theory associated for the successful completion of the events.

Weight Training and Conditioning I

ID: 48018 Grade: 9–12 Length: Semester

*Credit: Physical Education**Prerequisite: None*

This course is designed to meet the needs of students who demonstrate an interest in developing personal fitness skills and gaining knowledge of anatomy and physiology. The course introduces students to many aspects of physical fitness, weight training, and conditioning and their role in promoting strength, muscular endurance, cardiovascular endurance, agility and flexibility. Students will apply weight training and fitness concepts through the development of their own personal fitness program. Students will learn the proper use of the Universal weight machine and free weights. Students will also become knowledgeable about various nutritional and weight control programs and will be able to analyze the effectiveness of each of the programs studied.

Weight Training and Conditioning II

ID: 48019 Grade: 9–12 Length: Semester

*Credit: Physical Education**Prerequisite: Weight Training I*

This course is designed to continue knowledge and skill in the components of physical fitness: strength, muscular endurance, cardiovascular endurance, agility and flexibility. The resistance-training program includes: free weights, circuit training, flexibility instruction and aerobic activities. Theoretical instruction comes from a variety of sources including physiology texts, salient journals and teaching periodicals. The students'™ knowledge of this theoretical base, along with practical application, forms the core concepts of this offering. Students will be graded on both practice and theory.

Lifeguarding

ID: 48023 Grade: 9–12 Length: Semester

Credit: Physical Education

Prerequisite: Must be at least 15 years old and be able to pass the swimming test. If uncertain about your swimming skills, consult with a PE teacher before requesting this course.

The purpose of the Lifeguarding course is to teach lifeguards the skills and knowledge needed to prevent, recognize, and respond to aquatic emergencies and to provide care for injuries

and sudden illnesses. The American Red Cross Lifeguard Training Program curriculum is used as the basis for this course. Students may opt-in to receive the following certificates: Lifeguarding, First Aid, CPR and AED Administration for the Professional Rescuer. Please note that in order to meet the rigorous standards for these certificates, students may be required to attend some outside-of-school-hours sessions if they wish to receive all of the certifications.

ADVANCED STUDIES OPTIONS

AT Kinesiology

ID: 48000 Grade: 11–12 Length: Semester

Credit: Physical Education

Prerequisite: Completion of Biology, plus a Semester I grade of B+ in Chemistry or B in Accelerated Chemistry; or recommendation of PE Department Chair.

The Advanced Topic (AT) designation indicates a course is at university level, putting it at or above the level of a traditional Advanced Placement (AP) course. This course has a grade point weighting of 0.5.

This course is designed to provide students with selected foundational knowledge in kinesiology. Modules focus on basic anatomy and introduce key aspects of exercise physiology, biomechanics, and motor behavior. Students will have the opportunity to apply course content through project-based learning. Projects may look to explore and investigate areas such as human performance, personal wellness, public health, and quality of life across the lifespan. This course aims to prepare students to pursue further studies in physical education and medical fields. The course requires rigorous study and emphasizes in-depth research.

HEALTH/ WELLNESS

All students are required to take one semester-long Health and Wellness course in tenth grade. All courses will include the following critical issues components: human sexuality and diseases, drug and alcohol issues, and decision-making.

Life Balance: Body and Mind Wellness

ID: 48007 Grade: 10–12 Length: Semester

Credit: Physical Education

Prerequisite: None

This course provides students with an opportunity to learn, discuss and explore topics relevant to SAS teens and their overall wellbeing. The course will help students learn how to take healthy action and build toolkits to prepare them to handle the many challenges in their high school lives. Learning to reflect and process issues, and find language that will help one to articulate their needs will also be modeled. The core topics are mental health, healthy relationships, sexual health, physical health and nutritional health; this overall health framework will allow for the class to be responsive to current issues. This will be a very hands-on, participation focused, application minded and project-based class.

Life Skills and Human Development

ID: 48010 Grade: 10–12 Length: Semester

Credit: Physical Education

Prerequisite: None

This course provides students with a solid knowledge base about important personal and social skills to help them make appropriate life-style decisions. Topics include the misuse and abuse of alcohol, tobacco and illicit drugs; human development, including reproduction, development of relationships, marriage and divorce; and sexually transmitted diseases, including behaviors that lead to them and how to avoid them. Student participation in discussions and projects is a key element. Students should be mature and forthcoming in their attitudes toward the subject matter.

Body Systems and Diseases

ID: 48011 Grade: 10–12 Length: Semester

Credit: Physical Education

Prerequisite: None

This course is designed to help students better understand body systems and their functions. Students will understand the impact of personal health, behaviors and life-styles on body systems. Emphasis will be placed on such important diseases and disorders as heart disease, cancer, diabetes, and AIDS. Students will become aware of the major communicable and noncommunicable diseases with the emphasis on prevention, treatment, and significant medical breakthroughs. Students will also learn how research and medical advances influence prevention, life-style, wellness and the control of health problems. Knowledge of the short and long term effects associated with the use of alcohol, tobacco, and other drugs on reproduction, pregnancy, and the health and wellness of an individual will be emphasized. A preventative versus a curative approach will be taken in order to encourage students to take responsibility for their own life-styles and wellness.

Safety and First Aid

ID: 48012 Grade: 10–12 Length: Semester

Credit: Physical Education

Prerequisite: None

This course is designed to help students become aware of their surroundings and how they can affect their own and others' safety, and to help them deal with potential accidents and hazardous situations. The First Aid section will teach students what to do in a number of emergency medical situations. The course will follow American Red Cross Emergency Response programs for First Aid and CPR. Besides becoming proficient in CPR and other immediate related life saving techniques, complete emergency response first aid training will examine the most common injuries and situations associated with sports and other activities. Students will receive Red Cross certifications in both First Aid and CPR. Additionally, a 3-4 week study review of Critical Issues will be included on a variety of topics like alcohol, tobacco, (mis)used drugs, nutrition, sexuality, STIs and HIV/AIDS.



Are you ready to take control of your learning? Quest is an exciting and innovative all-day, year-long program for juniors and seniors at SAS. Quest provides structure and time for students to pursue their intellectual curiosities and personal ambitions. Instead of taking a traditional course load, students will earn at least five credits by engaging with interdisciplinary projects and institutional partnerships (internships) that are personalized to their interests. An optional sixth elective credit

is also available in Quest for students interested in Creativity & Innovation. The program is designed to allow flexibility in scheduling so that students have the time to explore, innovate, and develop skills needed in college and various careers. Students in Quest complete rigorous academic work and work with experts in various industries which can differentiate them from other students in the college application process.

Students will develop connections to the real world through different experiences such as:

- Corporate partnerships or internships
- Embedded service learning
- Mini-thesis in an area of interest with an expert mentor
- Mini-thesis in an area of interest with an expert mentor

COURSES AND CREDITS ON THE TRANSCRIPTS

A traditional transcript will be sent to college admissions officials that reflect the rigour of the program showing the five or six credits earned in Quest. It is recommended that students take one or two additional courses at SAS, and as long as it fits in the Quest schedule this request will be accommodated. Quest provides students with a safe space to further their independent use of critical thinking, creativity, cultural awareness, and collaboration. These skills are embedded in the curriculum and reflected on the transcript.

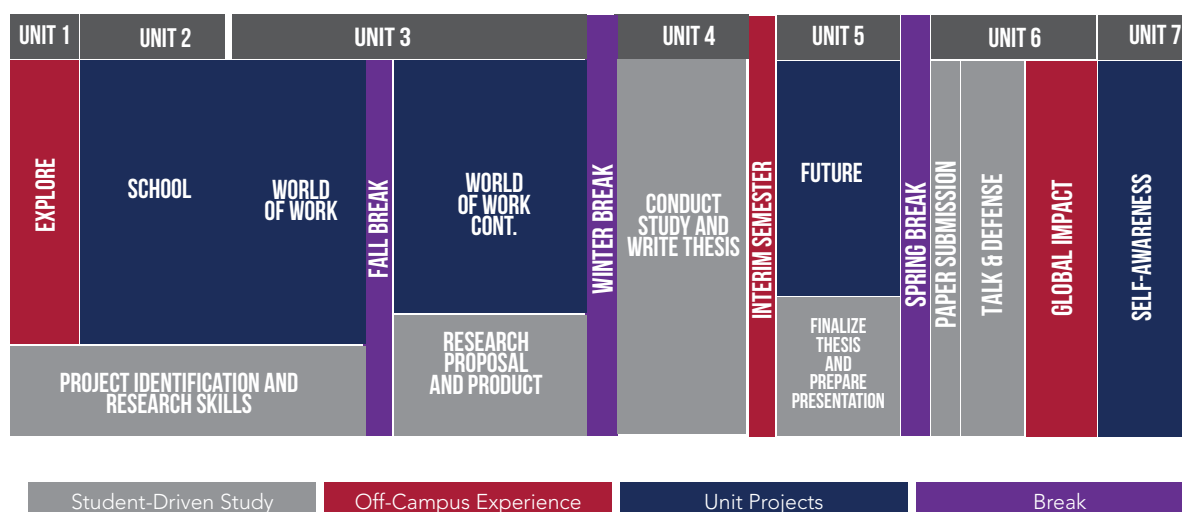
Every student in Quest completes the student-driven study which satisfies the Catalyst requirement, and students may choose to receive all, some or no Advance Topic credits for their Quest credits. In addition, a student may choose to submit to AP Research and to utilize their learning from Data Analytics to take the AP Statistics exam. Quest is a rigorous program, but with personalized attention, so all students can learn at high levels.

| COURSE TITLE | CREDIT |
|---|---------------------|
| AT or College Prep: Research & Composition* | ENGLISH |
| AT or College Prep: Data Analytics* | MATH |
| AT or College Prep: Design Thinking | SCIENCE |
| Cultural Awareness & Collaboration | SOCIAL STUDIES |
| Critical Thinking & Reasoning | ELECTIVE |
| Creativity & Innovation | OPTIONAL ELECTIVE |
| Credit of your choice | OTHER COURSE AT SAS |
| Credit of your choice | OTHER COURSE AT SAS |

*Students can elect to take the AP exam for credit in these courses

YEAR OVERVIEW

The Quest calendar aligns with the SAS calendar and is designed to ensure students can participate in all clubs, athletics, school spirit activities, and their other courses at SAS. The units stress skill acquisition through collaborative interdisciplinary projects personalized to the interests of each student. Students work with the Quest teachers and a mentor on a student-driven study, which culminates in a thesis paper, thesis talk, and thesis defence. Quest students explore various topics, forms of communication, and are encouraged to engage with school, community, and global networks. Throughout the year, students develop time-management, project organization and the DSLO skills such as critical-thinking, creativity, cultural awareness, and communication, all of which are essential skills for their future.



DAILY SCHEDULE

Students in Quest will schedule their individual time around the Quest community times and their selected course/s. Throughout the day, the Quest teachers meet with students individually, in small groups, and conduct lectures or traditional lessons. On the day when students don't have other courses at SAS the students are often off-campus taking advantage of the corporate and community networks provided in Singapore. Throughout the unit, individual feedback is provided to ensure that students are meeting expectations and discovering strategies that work for them to be responsible for their own learning. As such, there is no set schedule for how Quest students spend their individual or group time. Students will have flexibility and accountability to plan their time as needed, and many of our former students say this has had a tremendous positive impact on their ability to be successful in college.

To help visualize the uniqueness of the flexibility afforded the students, below is what a schedule of a Quest student might look like:

| | QUEST COMMUNITY | B/D DAY | A/C DAY | B/D DAY |
|-----------|-----------------|---------------------------------------|--|--------------------|
| 1st Block | GROUP WORK | Guest Speaker: Alexander De Leon | Late Start | Hypothesis Testing |
| 2nd Block | | Make Prototypes | | AP Physics |
| 3rd Block | | Student Driven Study: Guiding? | Off-Campus: Working At Various Locations | Test Product |
| 4th Block | INDIVIDUAL TIME | AP Physics | | Analytics Tutorial |
| Evening | | 6:30 - 8:30 Mentor Appreciation Night | | |

FORMER QUEST STUDENTS

Quest is currently in the third year with students. Our former students have gone on to attend various universities including but not limited to NYU, Tufts, UCLA, and schools in the UK and Keio in Tokyo. Because of the community Quest students and teachers build there is regular contact with former students who all attest to the positive impact of the skills developed in Quest.

"Quest is unique because we are granted the ability to take control of our own learning. We invested time into our passions and established networks and connections with experts. Quest reinforced the importance of time management and being self-motivated. Using these skills helped me work with various NGOs committed to resolving the refugee crisis in Europe and with the Embassy of the European Union in Singapore. Working with these groups and organizations allowed me to set foot into the world we will inherit after we graduate which has given me the chance to get a head start for adulthood."

—Nigel Li (Class of 2017)

English: Research & Composition

ID: 48525 Grade: 11–12 Length: Year

Credit: English

Prerequisite: None

In order to receive credit in English Research and Composition, students must meet the following requirements: research using credible sources, dynamic oral communication, engaging digital communication, and well-composed written essays. For the student-driven project the students will develop an informed research question, then gather and analyze scholarly journals, as well as completing a statistical analysis of their own data. Their research will culminate in the writing of a thesis paper, thesis talk and defense. Throughout the units the students will deliver multiple presentations that consider how style, content and the advanced use of technology contribute to the power, persuasiveness or beauty of a text (e.g. making documentaries, digital portfolios, websites, crafting arguments that rely on rhetoric to influence an audience). At the end of the year students will be able to communicate effectively in various formats while being mindful of audience and purpose.

AT English: Research & Composition

ID: 48526 Grade: 11–12 Length: Year

Credit: English

Prerequisite: Completion of AP Seminar, AP Research, AT Seminar, AT Research & Catalyst, or AP English Language and Composition; or Semester I grade of A or higher in 11th-grade English course; or current English teacher recommendation.

Note: Quest students who completed AP Seminar and earned a score of 3 or better on the exam may choose to submit the thesis papers they produce in this course to the College Board for AP Research exam scoring. These students will be supported within Quest to follow the AP Research guidelines. To earn the AP Capstone Diploma, students must earn scores of 3 or higher on the AP Seminar and AP Research exams and on four additional AP exams. The Advanced Topic (AT) designation indicates a course is at university level, putting it at or above the level of a traditional Advanced Placement (AP) course. This course has a grade point weighting of 0.5.

Please see above for detailed description of English: Research and Composition. Students wishing to earn Advanced Topic credit in English: Research and Composition will practice narrative, oral communication, digital communication, and argumentative skills at a level that demonstrates

in-depth application of these skills. Students will complete one additional project per unit. These projects may be self-selected, but may also be suggested by the advisors.

Math: Data Analytics

ID: 48527 Grade: 11–12 Length: Year

Credit: Math

Prerequisite: Completion of Geometry; or recommendation of Quest advisor.

In order to receive credit in Math: Data Analytics, students are required to demonstrate their learning in interpreting categorical and quantitative data, making inferences and justifying conclusions and using probability to make decisions. Students do not need to dwell on the details of computation - the main focus is on understanding a few deep concepts and interpreting data and the results of statistical analysis. Students are required to collect, organize, represent, and analyze data through the use of statistical software or programming language.

AT Math: Data Analytics

ID: 48528 Grade: 11–12 Length: Year

Credit: Math

Prerequisite: Completion of Algebra 2/Trig or higher level math course with Semester I grade of B or higher; or recommendation of Quest advisor.

Note: The Advanced Topic (AT) designation indicates a course is at university level, putting it at or above the level of a traditional Advanced Placement (AP) course. This course has a grade point weighting of 0.5.

Please see above for detailed description of Math: Data Analytics. Students who wish to earn Advanced Topic credit will individually be held to a higher standard of skill acquisition and will need to demonstrate a high level of data processing and analyzing skills. Students are required to collect, organize, represent, and analyze their own data through the use of statistical software or programming language. Students will also be defining their learning objectives and how they personally go beyond the requirements.

Science: Design Thinking

ID: 48529 Grade: 11–12 Length: Year

*Credit: Science**Prerequisite: Completion of a chemistry course; or current science teacher recommendation.**Note: For potential college athletes, this course does not meet the NCAA Division I core course requirement for Science. See counselor for details.*

Students will learn to produce strong designs, become more effective problem solvers, and communicate effectively with high emotional and intellectual impact. This project-based course requires that students apply engineering, science, math, and technology to solve complex, open-ended problems in a real-world context. Students will focus on the process of defining and solving a problem, not on getting the “right” answer. In practice, rigor in process and tools must be balanced with flexibility and adaptability towards the problems they solve, so instruction focuses on teaching multiple tested, iterative design processes as well as techniques and mindsets to sharpen creative analysis. Guest lectures from all disciplines illustrate different approaches to design thinking. This course develops students’ skills to conceive, organize, lead, implement, and evaluate successful projects in any discipline.

AT Science: Design Thinking

ID: 48530 Grade: 11–12 Length: Year

*Credit: Science**Prerequisite: Completion of a chemistry course with grade of B or higher; or completion of a physics course with grade of B or higher; or current science teacher recommendation.**Note: For potential college athletes, this course does not meet the NCAA Division I core course requirement for Science. See counselor for details.**The Advanced Topic (AT) designation indicates a course is at university level, putting it at or above the level of a traditional Advanced Placement (AP) course. This course has a grade point weighting of 0.5.*

Please see above for detailed description of Science: Design Thinking. AT-level students will be required to go above and beyond the college preparatory design thinking course requirements and demonstrate a higher level of rigor throughout the processes, vetting, production, application and reflection that occur over the course of the year.

Creativity & Innovation

ID: 48531 Grade: 11–12 Length: Year

*Credit: Elective**Prerequisite: None*

Creativity and innovation requires that students explore individual and organizational factors that stimulate and inhibit creativity in individuals and teams. Students are expected to demonstrate their ability and willingness to take risks while developing creative solutions and products for specific purposes. Students will reflect deeply within their portfolio and be assessed for their creative thinking processes around standards of courage, ethics, openness, originality and practicality.

Critical Thinking & Reasoning

ID: 48532 Grade: 11–12 Length: Year

*Credit: Elective**Prerequisite: None*

In order to receive credit in Critical Thinking and Reasoning, students are required to demonstrate their learning in explaining issues, selecting and using information to investigate a point of view or conclusion, thoroughly analyzing context and assumptions, taking a specific position and discussing the limits of position, and creating a logical conclusion based on the evidence and perspectives discussed.

Cultural Awareness & Collaboration

ID: 48533 Grade: 11–12 Length: Year

*Credit: Social Studies**Prerequisite: None*

Cultural awareness and collaboration requires students to participate in inquiry concerning various cultures in Singapore and around the world. When encountering people from various cultures, students are expected to understand the complexity of worldviews and to practice cultural awareness. They will demonstrate these skills in research, questioning, human interactions, and advocacy. In addition, students will practice and develop skills concerning collaboration with other members of Quest, the advisors, and the members of the wider community such as professionals in the field.

ADVANCED STUDIES

SAS is committed to providing relevant, rigorous, and exceptional learning opportunities to meet the diverse needs of our students. **Advanced Topic (AT) courses and Advanced Placement (AP) courses together form our Advanced Studies program.** This hybrid program allows students to pursue a wide range of interests through college-level study and is one of the ways in which the high school is working towards the SAS vision of “cultivating exceptional thinkers prepared for the future.” We now proudly offer over 40 advanced studies courses. Each Advanced Studies course has been reviewed and approved by our vetting team through a process involving administration, counselors, teachers, and university admissions representatives.

Our AT courses are designed to provide students with learning opportunities that are relevant and foster the development of essential 21st-century skills. They are vetted by our school team and by strategic partners to ensure students receive a rigorous course of study. As we continue to invest in AT courses, we also recognize and value the role our AP courses play in our program of study as well as the important history SAS has had with the AP program. It is for this reason that our hybrid approach brings SAS AT courses alongside high-quality AP courses.

This year, we are very pleased to introduce four additional AT courses: AT English: Literature, AT Geography and Field Research, AT Psychology, and AT Historical Inquiry and Research. These new AT courses complement our existing advanced studies offerings. In 2019-20, 20 AT courses, 21 AP courses, and 26 AP exams will be accessible to our students. With this array of advanced studies course offerings, our students are ensured a rigorous and relevant course of study.

To ensure students enroll in a balanced selection of courses, the school has capped the total number of Advanced Placement credits that a student may earn at SAS. Starting with the graduating class of 2021, students may earn up to seven (7.0) year-long-equivalent AP credits during their high school careers. This credit limit was first announced during the 2014-15 school year. Though students may only earn up to seven year-long-equivalent AP credits, it is possible for students who plan appropriately to take more than seven AP examinations - in some instances, as many as 15 AP examinations.

In addition, we are pleased to be continuing our co-crediting partnership with Syracuse University. The Syracuse University Project Advance (SUPA) program is a concurrent enrollment program linking the university with secondary schools. Through this partnership, we are able to offer qualified students who are taking select Advanced Topic courses the opportunity to concurrently enroll in Syracuse University courses for university credit. During the 2019-20 school year, SAS students taking AT Computational Physics, AT Economics: Globalization, and AT Psychology are eligible for concurrent enrollment in Syracuse University courses. Concurrent enrollment is not mandatory, and students will choose whether or not to participate at the beginning of the course. In some cases, students pursuing university credit through Syracuse University may be required to engage in self-study and complete additional assessments. In addition, please note that there is a fee per credit hour that participating students and families must pay. This fee is determined by Syracuse University Project Advance (<http://supa.syr.edu>). We will continue to explore partnerships with Syracuse University for some of our other AT courses in subsequent years.

We are excited to offer these advanced studies courses and opportunities to our students. In addition to the information provided in this guide, we offer additional information on courses as well as extensive responses to many of the most frequently asked questions on our school portal (<https://www.sas.edu.sg/academics/high/advanced-studies>).

Our Advanced Studies courses are challenging, asking students to undertake rigorous and sophisticated assignments and to work independently. We also encourage you to bring your questions to your high school counselors or the Advanced Studies Coordinator Dr. Dennis Steigerwald (dsteigerwald@sas.edu.sg). They will gladly help clarify and are eager to support families and students to plan an appropriate course of study.

In this section, we summarize our advanced studies offerings. For full course descriptions, please refer to the entries for each course that appear earlier in this guide.

ENGLISH**AP English Language and Composition**

ID: 41028 Grade: 11–12 Length: Year

Credit: English

Prerequisite: Semester I grade of B+ or higher in English 10/American Studies is required to select this course in 11th grade. Students with a Semester I grade of B in English 10/American Studies or a Semester I grade of A+ in English 9/World Studies may select this course if they also obtain a current teacher recommendation.

AT English: Writing Workshop and Publication

ID: 41046 Grade: 11–12 Length: Year

Credit: English

Prerequisite: Any English AP/AT course; or Semester I grade of B or higher in an 11th-grade English course; or Semester I grade of B+ or higher in English 10/American Studies. Students with a Semester I grade of B in English 10/American Studies may seek an override which requires approval from current English teacher, counselor, and English department chair. Note: Students who have signed up will be required to submit a portfolio of creative writing pieces prior to the fall semester in order to remain in the course. See your English teacher for details.

AT English: Literature

ID: 41047 Grade: 11–12 Length: Year

Credit: English

Prerequisite: Any English AP/AT course; or Semester I grade of B or higher in an 11th-grade English course; or Semester I grade of B+ or higher in English 10/American Studies. Students with a Semester I grade of B in English 10/American Studies may seek an override which requires approval from current English teacher, counselor, and English department chair. Note: Students who have signed up will be required to submit a short video prior to the fall semester in order to remain in the course. See your English teacher for details.

SOCIAL STUDIES**AP Comparative Government and Politics**

ID: 42031 Grade: 11–12 Length: Semester II

Credit: Social Studies

Prerequisite: Semester I grade of B or higher in a 10th- or 11th-grade social studies course is required; or current teacher recommendation.

AP U.S. Government and Politics

ID: 42035 Grade: 11–12 Length: Semester I

Credit: Social Studies

Prerequisite: Semester I grade of B or higher in a 10th- or 11th-grade social studies course is required; or current teacher recommendation.

AP U.S. History

ID: 42036 Grade: 10–12 Length: Year

Credit: US History

Prerequisite: Semester I grade of A or higher in World History/World Studies is required to select this course in grade 10; a B or higher in a 10th- or 11th-grade social studies course is required to select this course in grades 11 or 12, or current teacher recommendation.

AP Economics

ID: 42045 Grade: 11–12 Length: Year

Credit: Social Studies

Prerequisite: Semester I grade of B or higher in a 10th- or 11th-grade social studies course; or current teacher recommendation.

AP Economics (Self-Paced)

ID: 42046 Grade: 11–12 Length: Year

Credit: Social Studies

Prerequisite: Semester I grade of B or higher in a 10th- or 11th-grade social studies course; or current teacher recommendation.

AT Urban Studies

ID: 42060 Grade: 11–12 Length: Semester

Credit: Social Studies

Prerequisite: AP Human Geography; or a Semester I grade of B or higher in a 10th- or 11th grade social studies course is required to select this course; or current teacher recommendation.

AT Economics: Globalization

ID: 42061 Grade: 11–12 Length: Semester

Credit: Social Studies

Prerequisite: AP Economics; or a Semester I grade of A or higher in Economics plus teacher recommendation.

AT Psychology

ID: 42062 Grade: 11–12 Length: Year

Credit: Social Studies

Prerequisite: Semester I grade of B or higher in a 10th- or 11th-grade social studies course is required to select this course in grades 11 or 12; or current teacher recommendation.

AT Geography and Field Research

ID: 42063 Grade: 10–12 Length: Year

Credit: Social Studies

Prerequisite: Semester I grade of A or better in World History/World Studies is required to select this course in grade 10; a B or higher is required in a 10th-grade social studies course to select this course in grade 11; or current teacher recommendation.

AT Historical Inquiry and Research

ID: 42064 Grade: 10–12 Length: Year

Credit: Social Studies

Prerequisite: A semester 1 grade of A or better in World History/World Studies is required to select this course in grade 10; a B or higher in a 10th or 11th grade regular social studies course, or a C+ or higher in an AP social studies is required to select this course in grades 11 or 12.

MATHEMATICS**AP Calculus AB**

ID: 43026 Grade: 9–12 Length: Year

Credit: Math

Prerequisite: Semester 1 grade of B or higher in Pre-Calculus. Semester 1 grade of B or higher with teacher recommendation for Accelerated Math II. Semester 1 grade of A or higher in ISP and teacher recommendation.

AP Calculus BC. (Post AB)

ID: 43033 Grade: 9–12 Length: Semester

Credit: Math

Prerequisite: Semester I grade of B or higher in AP Calculus AB.

Note: Designed for students who have completed AP Calculus AB

AP Calculus BC

ID: 43032 Grade: 9–12 Length: Year

Credit: Math

Prerequisite: Semester 1 grade of A or higher in Pre-Calculus. Semester 1 grade of A or higher with teacher recommendation for Accelerated Math II.

AP Statistics

ID: 43040 Grade: 9–12 Length: Year

Credit: Math

Prerequisite: Semester 1 grade of A or higher in Accelerated Math I, Algebra II/Trig; or a B or higher in ISP; or a C+ or higher in any higher level math course.

AT Post-Euclidean Geometry

ID: 43041 Grade: 9–12 Length: Semester I

Credit: Math

Prerequisite: Semester I grade of A or higher in Accelerated Math I or Algebra II/Trig; or a Semester I grade of B or higher in ISP; or a Semester I grade of C+ or higher in any higher level math course. Students must also have successfully completed a HS Geometry course or equivalent.

AT Finite Math Modeling

ID: 43042 Grade: 9–12 Length: Semester II

Credit: Math

Prerequisite: Semester I grade of A or higher in Accelerated Math I or Algebra II/Trig; or a Semester I grade of B or higher in ISP; or a Semester I grade of C+ or higher in any higher level math course.

AT Multivariable Calculus

ID: 43043 Grade: 9–12 Length: Semester

Credit: Math

Prerequisite: AP Calculus BC

AT Linear Algebra

ID: 43044 Grade: 9–12 Length: Semester

Credit: Math

Prerequisite: AP Calculus BC

SCIENCE**AP Chemistry (Self-Paced)**

ID: 44024 Grade: 11–12 Length: Year

Credit: Physical Science

Prerequisite: Semester I grade of A or higher in Chemistry, plus either current teacher

recommendation or Semester 2 grade of A or higher in Chemistry; or Semester I grade of B or higher in Accelerated Chemistry.

AP Biology

ID: 44027 Grade: 11–12 Length: Year

Credit: Life Science

Prerequisite: Semester I grade of B or higher in Biology or Accelerated Biology, plus a Semester I grade of B+ or higher in Chemistry or B or higher in Accelerated Chemistry.

AP Physics C

ID: 44030 Grade: 11–12 Length: Year

Credit: Physical Science

Prerequisite: Semester I grade of B or higher in AP Physics 1 or AT Computational Physics; or Semester I grade of B+ or higher in Physics, plus completion or concurrent enrollment in AP Calculus AB or AP Calculus BC

AP Chemistry

ID: 44031 Grade: 11–12 Length: Year

Credit: Physical Science

Prerequisite: Semester I grade of A or higher in Chemistry, plus either current teacher recommendation or Semester 2 grade of A or higher in Chemistry; or Semester I grade of B or higher in Accelerated Chemistry; or current teacher recommendation.

AP Physics 2

ID: 44033 Grade: 11–12 Length: Year

Credit: Physical Science

Prerequisite: Semester I grade of B or higher in AP Physics 1 or AT Computational Physics; or Semester I grade of B+ or higher in Physics, plus completion of Chemistry, completion of Accelerated Chemistry, or concurrent enrollment in Accelerated Chemistry
Note: Please take out "... this course is under consideration for redevelopment."

AT Environmental Science & Field Research

ID: 44036 Grade: 10–12 Length: Year

Credit: Life Science

Prerequisite: Semester I grade of B+ or higher in Accelerated Biology plus concurrent enrollment in a chemistry class is required to select this course in grade 10. Semester II grade of B or higher in Biology

or Accelerated Biology, plus Semester I grade of B+ or higher in Chemistry or B or higher in Accelerated Chemistry are required to select this course in grades 11 or 12

AT Computational Physics

ID: 44050 Grade: 10–12 Length: Year

Credit: Physical Science

Prerequisite: Semester I grade of A in Conceptual Algebra II; or completion of Algebra II/Trig or higher level math course.

WORLD LANGUAGES

AP French Language and Culture

ID: 45023 Grade: 10–12 Length: Year

Credit: Language

Prerequisite: Current teacher recommendation

Note: Beginning in 2019-2020, students completing grade 11 and at least one year in the Intermediate High course will be able to select this course without a teacher recommendation. Those in grades 9 and 10 will still require a teacher recommendation.

AP Spanish Language and Culture

ID: 45024 Grade: 10–12 Length: Year

Credit: Language

Prerequisite: Current teacher recommendation

Note: Beginning in 2019-2020, students completing grade 11 and at least one year in the Intermediate High course will be able to select this course without a teacher recommendation. Those in grades 9 and 10 will still require a teacher recommendation.

AP Chinese Language and Culture

ID: 45025 Grade: 10–12 Length: Year

Credit: Language

Prerequisite: Current teacher recommendation

Note: Beginning in 2019-20, students who have completed one year in the Intermediate High course will be able to select this course in grade 12 without a teacher recommendation. A teacher recommendation will still be required to select this course in grades 9 and 10.

AT Chinese Language: History

ID: 45029 Grade: 11–12 Length: Year

Credit: Language

Prerequisite: Demonstrated proficiency levels of Advanced Low or higher in all four skills.

TECHNOLOGY, ELECTIVES AND CAPSTONE (TEC)**AP Computer Science**

ID: 44519 Grade: 10–12 Length: Year

Credit: Elective

Prerequisite: Semester I grade of B or higher in Algebra II/Trig or higher level math course; or a grade of B or higher in Computer Science I; or concurrent enrolment in Algebra II/Trig or Accelerated Math II plus computer science teacher recommendation.

AT Computer Science: Data Structures

ID: 44540 Grade: 11–12 Length: Year

Credit: Elective

Prerequisite: Semester I grade of B or higher in AP Computer Science.

AT Entrepreneurship

ID: 46560 Grade: 10–12 Length: Semester

Credit: Elective

Prerequisite: Semester 1 grade of A or better in World History/World Studies is required to select this course in grade 10; a B or higher in a 10th or 11th grade social studies course is required to select this course in grades 11 or 12, or current teacher recommendation.

AT Research & Catalyst

ID: 48515 Grade: 11–12 Length: Year

Credit: Elective

Prerequisite: Semester I grade of B or higher in AP Seminar or AT Seminar.

Note: Completing this course is one of the ways in which a student may fulfill the Catalyst graduation requirement.

AT Seminar

ID: 48520 Grade: 10–12 Length: Year

Credit: Elective

Prerequisite: Semester I grade of A or higher in both English 9 and World History, or Semester I grade of A or higher in World Studies is required to select this course in grade 10. Semester 1 grade of B+ or higher in English 10/American Studies is required to select this course in grade 11.

Note: AT Seminar requires independence, self-regulation and time management to be successful. Please see the TEC department chair if you have questions.

VISUAL AND PERFORMING ARTS**AP Drawing**

ID: 46111 Grade: 10–12 Length: Year

Credit: Visual/Performing Arts

Prerequisite: Studio Art or acceptable portfolio (Teacher Recommendation).

AP 2-D Art and Design

ID: 46112 Grade: 10–12 Length: Year

Credit: Visual/Performing Arts

Prerequisite: Completion of Studio Art or submission of acceptable portfolio (Teacher Recommendation).

AP 3-D Art and Design

ID: 46113 Grade: 10–12 Length: Year

Credit: Visual/Performing Arts

Prerequisite: Completion of Studio Art; or acceptable portfolio and teacher recommendation.

AT Performing ArtsID: 46325 (Dance) / 46326 (Music) / 46327 (Theater)
Grade: 12 Length: Year

Credit: Visual/Performing Arts

Prerequisite: Completion of three courses in the performance discipline and completion of application process detailed below. Specific strands may also include course pre-requisites.

PHYSICAL EDUCATION**AT Kinesiology**

ID: 48000 Grade: 11–12 Length: Semester

Credit: Physical Education

Prerequisite: Completion of Biology, plus a Semester I grade of B+ in Chemistry or B in Accelerated Chemistry; or recommendation of PE Department Chair.

QUEST

AT English: Research & Composition

ID: 48526 Grade: 11–12 Length: Year

Credit: English

Prerequisite: Completion of AP Seminar, AP Research, AT Seminar, AT Research & Catalyst, or AP English Language and Composition; or Semester I grade of A or higher in 11th-grade English course; or current English teacher recommendation.

Note: Quest students who completed AP Seminar and earned a score of 3 or better on the exam may choose to submit the thesis papers they produce in this course to the College Board for AP Research exam scoring. These students will be supported within Quest to follow the AP Research guidelines. To earn the AP Capstone Diploma, students must earn scores of 3 or higher on the AP Seminar and AP Research exams and on four additional AP exams.

AT Math: Data Analytics

ID: 48528 Grade: 11–12 Length: Year

Credit: Math

Prerequisite: Completion of Algebra 2/Trig or higher level math course with Semester I grade of B or higher; or recommendation of Quest advisor.

AT Science: Design Thinking

ID: 48530 Grade: 11–12 Length: Year

Credit: Science

Prerequisite: Completion of a chemistry course with grade of B or higher; or completion of a physics course with grade of B or higher; or current science teacher recommendation.

Note: For potential college athletes, this course does not meet the NCAA Division I core course requirement for Science. See counselor for details.

OTHER COURSES

LEARNING SUPPORT

SAS offers targeted services for students who qualify for support, assistance, or further instruction in order to be successful in the regular academic program. The learning support department provides educational intervention to students identified as needing support in their academic course work. The goal of the program is to allow all students to learn at high levels at SAS.

Learning Support I

ID: 47501 Grade: 9 Length: Year

Credit: May be taken for credit or non-credit.

Prerequisite: By school professional referral.

The goal of this course is to help students acquire the skills necessary for success in their academic program. This course includes developing students' executive function skills and development of learning strategies and behaviors for academic success. Through small group instruction, students are assisted in applying these skills and strategies to their course work. This course is not intended to be used as supervised study.

Learning Support II

ID: 47502 Grade: 10–12 Length: Year

Credit: May be taken for credit or non-credit.

Prerequisite: By school professional referral.

The goal of this course is to help students acquire the skills necessary for success in their academic program. This course includes developing students' executive function skills and development of learning strategies and behaviors for academic success. Through small group instruction, students are assisted in applying these skills and strategies to their course work. This course is not intended to be used as supervised study.

English Language Arts Lab I

ID: 47510 Grade: 9–10 Length: Year

Credit: May be taken for credit or non-credit.

Prerequisite: By school professional referral.

This course is designed to provide assistance to identified students in ninth and tenth grade

to improve their reading, writing, speaking, listening, and vocabulary skills in English. Students address strategies to read and write effectively. Interventions target reading comprehension, reading speed, organizing ideas for writing, developing writer's craft, revision process, and using grammar and mechanics to compose clear sentences, based on each student's individual needs.

English Language Arts Lab II

ID: 47511/2 Grade: 10–12 Length: Year

Credit: May be taken for credit or non-credit.

Prerequisite: By school professional referral.

This course is designed to provide assistance to identified students in grades 10 through 12 to improve their reading, writing, speaking, listening, and vocabulary skills in English. Students address strategies to read and write effectively. Interventions target reading comprehension, reading speed, organizing ideas for writing, developing writer's craft, revision process, and using grammar and mechanics to compose clear sentences, based on each student's individual needs.

Algebra I Math Lab

ID: 47520 Grade: 9 Length: Year

Credit: May be taken for credit or non-credit.

Prerequisite: By school professional referral.

This course aims to assist identified students with the development of mathematical skills, knowledge, mindset and confidence. Students will receive instruction to improve computational fluency, numeracy and algebraic skills, while also developing organizational, study, and test taking strategies. Given the small student to teacher ratio, the course focuses on providing individualized interventions, remediation, and pre- and re-teaching, which will target foundational, pre-Algebra, and Algebra skills.

Geometry Math Lab

ID: 47521 Grade: 10–12 Length: Year

Credit: May be taken for credit or non-credit.

Prerequisite: By school professional referral.

This course aims to assist identified students with the development of mathematical skills, knowledge, mindset and confidence. Students will receive instruction to improve computational

fluency, numeracy, algebraic and geometry skills, while also developing organizational, study, and test taking strategies. Given the small student to teacher ratio, the course focuses on providing individualized interventions, remediation, and pre-and re-teaching, which will target foundational, pre-Geometry, and Geometry skills.

SUPERVISED STUDY PROGRAM

The Supervised Study Program is designed to offer additional support for students who are academically at-risk by providing in-school supervision and structure during free blocks. SAS students are traditionally afforded the privilege of an unscheduled block (80 minutes every other day) during which they are allowed to make choices about their use of time; however, some students do not use their free time in a productive manner and need a more structured location in which to study.

A teacher may temporarily place students into Supervised Study as a way to assist students before they fail. Supervised Study is intended for those students who have the skill but may lack the will to complete their work. Reasons for placement may include (but are not limited to) low grades, missing or inconsistent homework, and poor organizational or time management skills. Supervised Study is not designed to address gaps in content knowledge, or poor behavior. Students found to be struggling in their learning may be placed in Supervised Study until specific tasks are completed or skills are mastered. Teachers will determine the length of a placement (minimum placement is two weeks).

In addition to teacher placements, counselors may place students in Supervised Study based upon poor grades at mid-semester progress time and at the end of each semester. Students who are new to the high school may also be placed in Supervised Study upon their arrival should their previous grades warrant it.

As long as there is room in the class, a counselor can add a student to Supervised Study. Full details and eligibility criteria for Supervised Study program can be found in the student handbook.

INTERIM SEMESTER

Students do not select their Interim Semester courses until the beginning of the academic year. The program is committed to:

- deepening students' understanding of the world around them;
- inspiring students to contribute to the global community;
- encouraging students to challenge themselves; and
- building a sense of community.

Courses are offered in the following categories. Beginning with members of the Class of 2016, students must complete at least one service learning Interim course:

Global Studies: These courses denote active participation and awareness of our interconnectedness with people and cultures around the world. Students will deepen their understanding of the world through themes. These themes may cross any academic discipline and often focus on development (resource management, environmental care, poverty), peace and conflict, cultural expression, and political conditions. Language study, which facilitates all cultural understanding, is also a valued focus area.

Service Learning: These courses have the capacity to touch on each of the desired student learning outcomes of the school's strategic focus. By using the model that knowledge leads to compassion, and compassion to action, service learning projects give students the opportunity to make a positive impact on the local community in which they work. Service learning provides a framework in which students learn and develop through active contribution in thoughtfully prepared service that meets the needs of the community.

Eco-Adventure: These courses are designed around the belief that the outdoors provides the greatest context for humans to grow socially, emotionally and academically. As such, ecoadventure courses provide students opportunities to learn and develop physically and intellectually while being fully immersed in the natural environment. Students will return from these excursions with an improved self-perception, increased academic skill-set and a robust sense of the environmental dynamics of the region visited.

FLEXIBLE LEARNING OPTIONS

SUMMER SEMESTER

The SAS Summer Semester opens a new learning option, encouraging students to extend, diversify, and accelerate learning from the academic school year. It will allow students to explore new learning paths not available through existing course offerings. The Summer Semester program focuses on the whole child and presents learning opportunities in four distinct categories: intellectual curiosity, creative expression, sports and wellness, and travel adventures and service. Students will have an opportunity to select programs from all categories.

SAS is partnering with world leaders in a variety of fields to offer leading edge programs not available elsewhere in Singapore. These partners have designed exclusive programs for the SAS Summer Semester student. In addition to an SAS Summer Semester transcript, students participating in this programs will receive a Certificate of Participation from the partnering organization.

An SAS Summer Semester transcript will become a part of the student's official academic record. Courses that are eligible for credit will be listed on the SAS transcript as a P (pass) grade, which is similar to how credits are listed on the SAS transcript for students transferring into SAS from any other high school. Credits earned through the SAS Summer Semester could be used to fulfill SAS graduation requirements but would not be included in the calculation of a student's SAS grade point average (GPA). A Summer Semester transcript, including the actual grades or comments, would be sent to colleges as an additional page of the SAS transcript.

Note that Summer Semester courses which allow students to earn high school credit (e.g. biology, geometry) are self-paced. Students work independently to meet the standards of the course. In order to be successful in the program, a student should be self-motivated, focused, and have a keen interest in the subject area. An assessment of the student's progress will be made at the end of the first two weeks. This is to ensure the student is on pace to complete the course. If evidence indicates the student is clearly not on pace to meet the course standards, parents can withdraw the student from the course. They will receive half of the Summer Semester payment for the course back.

SCHOOL YEAR ABROAD

Singapore American School, in partnership with the School Year Abroad (SYA) organization, is proud to offer high school students the opportunity to participate in a one-year study abroad opportunity during their junior or senior year. SAS joins a consortium of elite independent schools including the American School of London, Phillips Academy Andover, Phillips Exeter, St. Paul's School, and Taft in offering this program.

SYA is an independent nonprofit institution that owns and operates campuses in **China, France, Italy, and Spain**. SYA is the only high school study abroad program that requires students to live with a host family for an entire academic year. Our partnership with SYA allows SAS students to access their four language immersion campuses around the world for a year, while remaining SAS students.

Students apply to join SYA by completing an application on the www.sya.org website. Students must apply by the end of January to participate in the program during the next academic year, with acceptance decisions made shortly thereafter. Prior to applying, students should speak with their counselor to make certain the program will serve their needs and to review their SAS graduation credits. If accepted by SYA, tuition and fees will be paid directly to SYA. Only the SAS annual enrollment fee, which is required of all SAS students, would be required by SAS.

At the conclusion of the academic year an SYA transcript will be sent to SAS and will become a part of the student's official academic record. The credits will be listed on to the SAS transcript as a P (pass) grade, which is similar to how credits are listed on the SAS transcript for students transferring into SAS from any other high school. Credits earned through SYA could be used to fulfill SAS graduation requirements but would not be included in the calculation of an SAS grade point average (GPA). The actual SYA transcript, including the grades earned, would be sent to colleges as a second page of the SAS transcript providing colleges and universities with a full understanding of the SYA program.

COLLEGE PREPARATION

At SAS, a team of college counselors works with juniors and seniors every year to assist them in the process of selecting and applying to colleges and universities. The focus is on helping students find colleges that will be the best fit for them: colleges to which they are admissible, at which they will be successful and happy, and from which they will graduate.

Every SAS student is assigned a college counselor in the spring of sophomore year. At that point, the college counselor will work with the student on questions regarding curriculum planning and course registration. In the middle of junior year, the college counselors begin the college counseling process in earnest, meeting with students and families to talk about ideas and aspirations and to begin building a college list. The college counseling office also offers a wide range of programming for parents interested in learning more about college admissions.

The best way for students to prepare for college is to have robust academic and extracurricular lives. All students will benefit from investing themselves fully in a wide range of courses and from becoming meaningfully engaged in several extracurricular activities. But each student's college interests and search will be unique. The SAS college counselors are here to work with each individual student and family to talk about the journey ahead.

WHAT COLLEGES AND UNIVERSITIES CONSIDER

When admissions officers in the US review applications, they take a broad range of factors into consideration. At most schools, the first and most important factors are grades, course choices and rigor, and SAT or ACT scores. Most schools in the US will then also look at letters of recommendation, student essays, involvement in activities, and the college's own institutional priorities. US colleges like to see students who are both engaged in the classroom and who contribute to their communities in various ways.

Each year, between 10 and 20 percent of SAS seniors choose to apply to colleges in locations such as Australia, Canada, Japan, Singapore, South Korea, and the UK. Each of these countries reviews applications differently. The SAS High School College Counseling website has

information about these countries and the factors they use in their admissions reviews.

At most non-US schools, students are required to be certain of their course of study at the time of application. Unlike in the US, where students can apply as "undecided," there is rarely such a thing as "undecided" in other countries. This means that students must be prepared to launch into a specific course of university study—and to stay with it for three years or until the degree is completed. Therefore, students interested in studying at non-US schools would generally benefit from deciding on their intended course of college study early on. In consultation with their college counselor, they should plan their course schedule with careful attention to the field that they think they might like to pursue in the future.

Most universities in the UK require that students sit for three AP exams (or five, in a handful of cases) related to their intended area of study. So students who are UK-bound should plan accordingly. Students should also look to round out their studies with advanced studies (AP and AT) or regular course choices that will allow them to demonstrate their dedication to a particular field. The SAS college counselors are happy to provide additional information about course choices and how they relate to admission in the UK.

COURSE SELECTION AND COLLEGE

US colleges expect each student to pursue a curriculum that is appropriately rigorous—in other words, one in which the student can be challenged and can also be academically successful. This means that, when choosing high school courses, it is important to take a strong academic program—but it is even more important for students to take classes that they enjoy and in which they can earn strong grades.

The minimum SAS graduation requirements are just that: minimums. All students should look at the recommended for college column rather than the minimum credits column when deciding how many years of study to pursue in a given subject area. Students should speak to teachers and college counselors for advice on exactly which courses to take.

When choosing classes, it is important to know that the level of academic challenge will vary from one student to another and from one subject

to another. Our advanced studies (AP and AT) courses are more challenging, asking students to undertake rigorous and sophisticated assignments and to work independently. When choosing courses, students who enroll in advanced studies classes must plan on dedicating significantly more time each day. Students should take this into consideration and be realistic about what they can and will do.

While both AP and AT courses receive additional GPA weighting at SAS, no US colleges require that students take advanced studies courses. US colleges simply want each student to take a course load that is appropriately rigorous for them. Most schools in the UK require that students sit for and score well on three (and, in a few rare instances, five) AP exams in their area of interest, so students who are UK-bound should plan to take at least three AP classes. Schools in Singapore, South Korea, and a few programs at a handful of universities in Australia and Europe will also expect to see some AP scores.

It is important to note that, while US colleges are looking for academically able students who have challenged themselves, they also want students who have contributed to their school or community. Colleges are looking for interesting people who will become active members of their campuses. They will seek out students who are significantly involved with and can demonstrate that they care about a few meaningful extracurricular activities. Students should, therefore, plan to balance their academic load with their other interests and activities.

STANDARDIZED TESTING

Students applying to colleges and universities may be asked to submit a wide range of test scores. In the US, the most important standardized tests are the ACT and the SAT. In the UK, students must demonstrate their preparation for a particular subject area by submitting AP exam scores. A few colleges and universities may also ask students to submit Subject Test scores and/ or English language proficiency scores from tests such as the TOEFL or IELTS. Students will work with their college counselors in junior year to develop testing plans appropriate to their college aspirations.

We strongly suggest that each SAS student take either the SAT or the ACT at least once between December and May of their junior year. We do

not recommend that students begin standardized testing until the middle of junior year (unless a particular test, such as a specific AP exam or Subject Test, is aligned with a student's course choice in the sophomore year).

When it does come time to start the standardized testing process, students may wonder whether they should take the SAT or the ACT. There is no right answer to this question; most students fare equally well on both exams, and colleges and universities accept the two tests interchangeably. We suggest that students sit for a brief diagnostic sample of each test and see which of the two tests feels more comfortable and better suits their abilities.

The best way to prepare for the SAT and the ACT is to read a lot and to engage fully in classes and homework. Students can self-study for these tests using a range of preparation books—we have many in the high school library—or by taking advantage of free online programs such as those offered by Khan Academy. We also offer practice testing here at SAS every October in the form of the PSAT9 for ninth graders, the Pre-ACT for tenth graders, and the PSATs for eleventh graders. Some students may choose to enroll in a formal test preparation course; however, please be aware that such test preparation is best done six to eight weeks before the test itself. There is no evidence that engaging in test preparation any earlier than this will help increase test scores.

It is worth noting that there are hundreds of US colleges that no longer require any standardized testing as part of their admissions processes. A list of these colleges may be found at www.fairtest.org.

Additional information about standardized testing may be found in the testing section of the SAS High School College Counseling website.

COLLEGE APPLICATION POLICIES

Each junior will be provided with a comprehensive list of SAS's college application policies at the junior family meeting, but we would like to highlight three of our policies here:

Maximum Applications

The maximum number of applications SAS will process is 10 per student. This is a lifetime, worldwide limit. Each application that SAS processes counts as a single application, whether

the student is applying to a college for the first time or is reapplying as a first year student. The only exception is this: within the limit of 10 applications per student, the University of California and UCAS system applications each count as one. This policy is in the best interest of our students, encouraging them to research colleges carefully, choose colleges of true interest to them, and focus meaningfully on each application—thus enhancing their chances of admission. Universities are well aware of this policy and wholeheartedly support it. Historically, the average number of applications submitted is between five and six.

Disclosure of Predicted AP Exam Scores

Neither the SAS college counselors nor AP teachers will share predicted AP exam scores with students.

Disciplinary Reporting Policy

SAS will disclose any disciplinary infraction resulting in an out-of-school suspension when asked about disciplinary infractions by colleges.

APPENDIX I: COURSE SELECTION INSTRUCTIONS

BEFORE REQUESTING COURSES

After reviewing the information in this guide, use the four-year planning chart in the Appendix to develop a high school plan of study. Make certain that the minimum graduation requirements are fulfilled, but remember they are just that—minimum requirements. College-bound students graduate with significantly more than the minimum credits. Students should enroll in a challenging academic program in which they can be successful while also having time to participate in some activities.

HOW TO REQUEST COURSES

For students who do not plan to return to SAS next year, please complete this process anyway. It will help us plan for new students and can help students think about courses to consider whether at SAS or a different school. Teachers and counselors are happy to answer any questions about this request process or any of the SAS courses.

Either parents or students can login to PowerSchool and click the class registration icon to open the course selection screen. Access to this page is only available during the registration period in the spring. Follow the on-screen instructions to select courses for next year.

All students must enroll in the correct number of credit hours. Students going into ninth or tenth grade must have seven, and students in eleventh or twelfth grade must have between six and seven credits.

Click a subject area to see the available courses. The list of available courses is based upon the courses already completed, the prerequisites that have been met, or the recommendations entered by current teachers. New students who recently joined our school and have no SAS course history may appear to be missing a prerequisite. See a counselor so that prerequisite courses can be manually added.

PowerSchool disconnects from the server after 15 minutes of inactivity. When a user clicks submit after a long period of inactivity, the login screen will sometimes appear instead of a summary. If that happens, login again and re-enter course requests.

Once the correct number of credits has been entered, parents agree to the choices and click submit. The course requests will be displayed. Until the request period ends, students or parents can go back and review or change course requests.

REVIEWING GRADUATION CREDITS

After submitting course requests and a summary of courses has been displayed, students can check graduation progress by clicking the view graduation progress link. These charts combine the credits that have been completed, are in-progress this semester, and have been requested for next year. The top graph shows progress at meeting minimum SAS graduation requirements, and the bottom one shows progress toward fulfilling typical college preparatory expectations.

While students don't need to be concerned if PowerSchool temporarily assigned credits in a different combination than expected (e.g., Dance could be assigned to either PE or Art), each area should be fulfilled once senior courses are entered. If not, stop by the College Counseling office.

APPENDIX II: COURSE LIST

English

World Studies 2xYR
 English 9 YR
 American Studies 2xYR
 English 10 YR
 Creative Writing S1
 Asian Literature S1
 Literature/Imagination S1
 Read, Write, & Publish YR
 American Literature S2
 21st Century Literature S2
 Studies in Satire S2
 World Literature S2
 AP English Lang/Compo ... YR
 AP English Literature YR
 AT English Writing Workshop
 /Publication YR

Social Studies

World Studies 2xYR
 World History YR
 American Studies 2xYR
 US History & Govt YR
 AP US History YR
 History of Malaysia/Sing... SM
 AP US Gov/Politics S1
 AP Comparative Gov S2
 AT Urban Studies SM
 Economics SM
 Behavioral Econ/Game SM
 AP Economics YR
 AT Econ: Globalization SM
 Psychology SM
 AT Psychology YR
 AT Geo & Field Research .. YR
 AT Hist Inquiry/Research ... YR

Mathematics

Algebra I YR
 Geometry YR
 Algebra II/Trig YR
 Conceptual Algebra II YR
 Intro to Stats/PreCal YR
 Accelerated Math I YR
 Accelerated Math II YR
 Pre-Calculus YR
 Discrete Math YR
 AP Statistics YR
 AP Calculus AB YR
 AP Calculus BC YR
 AT Multivariable Calculus .. YR
 AT Linear Algebra YR
 AT Post-Euclidean Geo S1
 AT Finite Math Modeling... S2

Science

Biology YR
 Accelerated Biology* YR
 Biotechnology SM
 Environmental Science SM
 Forensic Science SM
 Marine Biology SM
 Anatomy & Physiology SM
 Zoology SM
 AT Env Sci/Field Research . YR
 AP Biology YR
 Physical Science YR
 Chemistry YR
 Accelerated Chemistry YR
 AP Chemistry YR
 Physics YR
 Engineering Space Tech YR

AT Computational Physics . YR
 AP Physics 2 YR
 AP Physics C YR

World Languages

French: Novice YR
 French: Intermediate YR
 French: Intermediate II YR
 French: Intermediate III YR
 French: Intermed High YR
 French: Intermed High II ... YR
 French: Intermed High III... YR
 AP French Lang/Culture ... YR

Spanish: Novice YR
 Spanish: Intermediate YR
 Spanish: Intermediate II YR
 Spanish: Intermediate III... YR
 Spanish: Intermed High YR
 Spanish: Intermed High II.. YR
 Spanish: Intermed High III. YR
 Spanish: Advanced YR
 AP Spanish Lang/Culture... YR

Chinese: Novice YR
 Chinese: Intermediate YR
 Chinese: Intermediate II YR
 Chinese: Intermediate III .. YR
 Chinese: Intermed High YR
 Chinese: Intermed High II . YR
 Chinese: Intermed High III YR
 Chinese: Advanced YR
 AP Chinese Lang/Culture .. YR
 AT Chinese Lang: History .. YR

TEC**Comp Science & Design**

Computer Science I SM
 Mobile App Dev SM
 Graphic Design SM
 Digital Game Develop SM
 AP Computer Science YR
 AT Computer Science YR

Engineering/Robotics

Intro to Robotics SM
 Robotic Science SM/YR
 Engineering Science YR

Business

Business SM
 Business of Sports SM
 Personal Finance SM

Journalism

Newspaper YR
 Yearbook YR

Capstone/Catalyst

AT Entrepreneurship SM
 AT Seminar YR
 AT Research Catalyst YR
 SAS Catalyst Project SM
 Independent Learning SM
 Global Online Academy ... SM

Visual/Performing Arts**Visual Arts**

Art I Foundations SM
 Ceramics I SM
 Ceramics II SM
 Mixed Media/Digital SM
 Studio Art YR
 AP Studio Art: Drawing YR
 AP Studio Art: 2-D Design. YR
 AP Studio Art: 3-D Design. YR

Theater

Stagecraft SM
 Foundations SM
 Improvisation SM
 Adv Improvisation SM
 Production S2
 Film/Acting Ensemble SM
 Sketch Comedy SM
 Musical Theater S2

Instrumental Music

Concert Band YR
 Symphonic Band YR
 Wind Ensemble YR
 Jazz Improvisation S1

Strings

Concert Strings YR
 String Ensemble YR
 Chamber Strings YR

Vocal Music

Concert Choir SM/YR
 Choral Ensemble YR
 SAS Singers YR

Film/Photography

Filmmaking SM
 Adv Filmmaking SM
 Digital Photography SM
 Adv Digital Photography .. SM

Additional Music

Introduction Guitar SM
 Advanced Guitar SM

Dance

Dance I SM
 Dance II SM
 Dance III SM
 Dance Performance YR

Advanced Option

AT Performing Arts YR

Physical Education

Fld Hockey/Softball/Golf.. SM
 Fit for the Body/Mind SM
 Group Fitness SM
 Group Fitness II SM
 Indoor Sports SM
 International Sports SM
 Climbing/Adventure Tr SM
 Personal Defense SM
 Racquet Sports SM
 Soccer/FlagFtbl/Rugby SM
 Track: Running SM
 Weight Training I SM
 Weight Training II SM
 Lifeguarding SM
 AT Kinesiology SM

Health/Wellness

Body Systems SM
 Safety/First Aid SM
 Life Balance SM
 Life Skills SM

Quest

Eng: Research/Compo YR
 AT Eng: Research/Compo . YR
 Math: Data Analytics YR
 AT Math: Data Analytics ... YR
 Sci: Design Thinking YR
 AT Sci: Design Thinking YR
 Cultural Awareness YR
 Creativity/Innovation YR
 Critical Thinking YR

Advanced Studies

AP English Lang/Compo ... YR
 AT English Literature YR
 AT English Writing Workshop
 /Publication YR
 AP US History YR
 AP US Gov/Politics S1
 AP Comparative Gov S2
 AT Urban Studies SM
 AP Economics YR
 AT Econ: Globalization SM
 AT Psychology YR
 AT Geo & Field Research.. YR
 At Hist Inquiry & Research.. YR
 AP Statistics YR
 AP Calculus AB YR
 AP Calculus BC YR
 AT Multivariable Calculus .. YR
 AT Linear Algebra YR
 AT Post-Euclidean Geo S1
 AT Finite Math Modeling... S2
 AT Env Sci/Field Research . YR
 Adv Biology SM
 AP Chemistry YR
 AT Computational Physics . YR
 AP Physics 2 YR
 AP Physics C YR
 AP Spanish Lang/Culture... YR
 AP French Lang/Culture YR
 AP Chinese Lang/Culture .. YR
 AT Chinese Lang: History .. YR
 AP Computer Science YR
 AT Computer Science YR
 AT Entrepreneurship SM
 AT Seminar YR
 AT Research Catalyst YR
 AP Drawing YR
 AP 2-D Art and Design YR
 AP 3-D Art and Design YR
 AT Performing Arts YR
 AT Kinesiology SM
 AT Eng: Research/Compo . YR
 AT Math: Data Analytics ... YR
 AT Sci: Design Thinking YR

Learning Support

Learning Support I YR
 Learning Support II YR
 English Lang Arts Lab I YR
 English Lang Arts Lab II YR
 Algebra I Math Lab YR
 Geometry Math Lab YR
*Permission/assessment is
 required for these courses.*

APPENDIX III: ADVANCED STUDIES COURSE OFFERINGS

| DEPARTMENT | 2019-20 | 2020-21 |
|--|---------|---------|
| English | | |
| AP English Language | ✓ | ✓ |
| AT English: Literature* | ✓ | ✓ |
| AT English: Writing Workshop & Publication | ✓ | ✓ |
| Mathematics | | |
| AP Calculus AB | ✓ | ✓ |
| AP Calculus BC | ✓ | ✓ |
| AP Calculus BC (Post-AB) (<i>semester long</i>) | ✓ | ✓ |
| AT Multivariable Calculus (<i>semester long</i>) | ✓ | ✓ |
| AT Linear Algebra (<i>semester long</i>) | ✓ | ✓ |
| AP Statistics | ✓ | ✓ |
| AT Post-Euclidean Geometry (<i>semester long</i>) | ✓ | ✓ |
| AT Finite Math Modelling (<i>semester long</i>) | ✓ | ✓ |
| Physical Education | | |
| AT Kinesiology (<i>semester long</i>) | ✓ | ✓ |
| Science | | |
| AP Biology | ✓ | ✓ |
| AP Chemistry | ✓ | ✓ |
| AT Environmental Science & Field Research* | ✓ | ✓ |
| AT Computational Physics** | ✓ | ✓ |
| AP Physics 2 | ✓ | ✓ |
| AP Physics C: Mechanics (<i>in full year AP Physics C</i>) | ✓ | ✓ |
| AP Physics C: Electricity & Magnetism (<i>in full year AP Physics C</i>) | ✓ | ✓ |

| DEPARTMENT | 2019-20 | 2020-21 |
|---|---------|---------|
| Social Studies | | |
| AP Gov & Politics: Comparative (<i>semester long</i>) | ✓ | ✓ |
| AP Gov & Politics: US (<i>semester long</i>) | ✓ | ✓ |
| AT Geography & Field Research | ✓ | ✓ |
| AP Macroeconomics (<i>in full year AP Economics</i>) | ✓ | ✓ |
| AP Microeconomics (<i>in full year AP Economics</i>) | ✓ | ✓ |
| AT Economics: Globalization* (<i>semester long</i>) | ✓ | ✓ |
| AT Psychology* | ✓ | ✓ |
| AT Urban Studies (<i>semester long</i>) | ✓ | ✓ |
| AP US History | ✓ | ✓ |
| AT Historical Inquiry & Research | ✓ | ✓ |
| Technology, Electives, Capstone | | |
| AP Computer Science | ✓ | ✓ |
| AT Computer Science: Data Structures | ✓ | ✓ |
| AT Entrepreneurship (<i>semester long</i>) | ✓ | ✓ |
| AT Seminar* | ✓ | ✓ |
| AT Research & Catalyst* | ✓ | ✓ |
| Visual & Performing Arts | | |
| AP Drawing | ✓ | ✓ |
| AP 2-D Art and Design | ✓ | ✓ |
| AP 3-D Art and Design | ✓ | ✓ |
| AT Performing Arts: Music, Dance, or Theater | ✓ | ✓ |

| DEPARTMENT | 2019-20 | 2020-21 |
|--|--|---------|
| World Languages | | |
| AP Chinese Language & Culture | ✓ | ✓ |
| AT Chinese: History | ✓ | ✓ |
| AP French Language | ✓ | ✓ |
| AP Spanish Language | ✓ | ✓ |
| Quest | | |
| <i>AT Data Analytics, AT Design Thinking, and AT Research & Composition*</i> | <i>available through our Quest program</i> | |

* denotes an AT course in association with which an AP exam is offered

* denotes an AT course in association with which Syracuse University Project Advance concurrent enrollment is offered

NB: All offerings are year long unless otherwise stated.

APPENDIX IV: AP EXAM & SYRACUSE UNIVERSITY CREDIT OPTIONS

The Singapore American School Advanced Studies program is pleased to offer students the opportunity to take a wide variety of AP exams and to earn Syracuse University credit through concurrent enrollment. In order to access these opportunities, students must be enrolled in the associated Advanced Placement (AP) or Advanced Topic (AT) courses. (Please note that independent study may not be used to obtain access.) The following table lists the AP exams and Syracuse University credits available at SAS alongside the courses that provide access to these opportunities.

Please note that students must be enrolled in the associated AP or AT course at SAS in order to access the listed AP exam or Syracuse University credit. Independent study may not be used to obtain said access.

| AP EXAM OR SYRACUSE UNIVERSITY CREDIT | ASSOCIATED ADVANCED STUDIES COURSE |
|---|---|
| English | |
| AP English Language Exam | AP English Language |
| AP English Literature Exam (<i>requires self-study</i>) | AT English: Literature |
| Mathematics | |
| AP Calculus AB Exam | AP Calculus AB |
| AP Calculus BC Exam | AP Calculus BC (Year-Long or Post-AB) |
| AP Statistics Exam | AP Statistics |
| Science | |
| AP Biology Exam | AP Biology |
| AP Chemistry Exam | AP Chemistry |
| AP Environmental Science Exam | AT Environmental Science & Field Research |
| AP Physics 1 Exam (<i>requires self-study</i>) | AT Computational Physics |
| Syracuse University Credit (PHY 101) | AT Computational Physics |
| AP Physics 2 Exam | AP Physics 2 |
| AP Physics C Mechanics Exam | AP Physics C |
| AP Physics C Electricity & Magnetism Exam | AP Physics C |
| Social Studies | |
| AP Gov & Politics: US Exam | AP Gov & Politics: US |
| AP Gov & Politics: Comparative Exam | AP Gov & Politics: Comparative |
| AP Macroeconomics Exam | AP Economics |
| AP Microeconomics Exam | AP Economics |
| Syracuse University Credit (ECN 203) | AT Economics: Globalization |
| Syracuse University Credit (PSY 205) | AT Psychology |
| AP U.S. History Exam | AP U.S. History |

| AP EXAM OR SYRACUSE UNIVERSITY CREDIT | ASSOCIATED ADVANCED STUDIES COURSE |
|---|---------------------------------------|
| Technology, Electives, & Capstone (TEC) | |
| AP Computer Science Exam | AP Computer Science |
| AP Seminar Exam | AT Seminar |
| AP Research Exam (<i>also offered in Quest</i>) | AT Research & Catalyst |
| Visual & Performing Arts | |
| AP Drawing Exam | AP Drawing |
| AP 2-D Art and Design Exam | AP 2-D Art and Design |
| AP 3-D Art and Design Exam | AP 3-D Art and Design |
| World Languages | |
| AP Chinese Language and Culture Exam | AP Chinese Language and Culture |
| AP French Language Exam | AP French Language |
| AP Spanish Language Exam | AP Spanish Language |
| Quest | |
| AP Research Exam (<i>also offered in TEC</i>) | AT Research & Composition |

APPENDIX V: FOUR-YEAR PLANNING CHART

| Department | Grade 9 | Grade 10 | Grade 11 | Grade 12 | To Graduate | College Recom'd | Total Earned |
|---|---------|------------------|----------|----------|---|-----------------|--------------|
| English | | | | | 4 | 4 | |
| Math | | | | | 2 | 4 | |
| Science | Biology | | | | 2 | 3-4 | |
| Soc Studies | | | | | 2 | 3-4 | |
| US citizens and University of California applicants are required to complete a US History course. | | | | | | | |
| Language | | | | | Intermediate | 3-4 | |
| V/P Arts | | | | | 1 | 1 | |
| University of California requires one credit or two semesters in the same type of V/P art. | | | | | | | |
| PE | | | | | 1.5 | | |
| Health | | | | | 0.5 | | |
| | | Required in 10th | | | | | |
| Catalyst Project | | | | | See General Information section for options | | |

*Please note that courses offered are subject to change.

Minimum Total Credits for Graduation = 24

INDEX

A

Academic Load 3
 Accelerated Bio 26
 Accelerated Chem 27
 Accelerated Math 22
 ACT 73
 Acting Courses 48
 Advanced Placement 1
 Advanced Studies 64
 Adv Digital Photo 52
 Adv Filmmaking 51
 Adv Guitar 52
 Adv Improv 48
 Advisory 4
 Algebra I 21
 Algebra II/Trig 21
 Algebra I Math Lab 70
 American Literature 11
 American Studies 9
 Anatomy/Physiology 26
 AP Biology 28
 AP Calculus AB 22
 AP Calculus BC 23
 AP Chemistry 29
 AP Chinese Lang 34
 AP Comparative Gov 16
 AP Computer Science 36
 AP Economics 17
 AP English Lang 12
 AP French 34
 AP Physics 2 30
 AP Physics C 30
 AP Spanish 34
 AP Statistics 23
 AP Studio Art 47
 AP U.S. Gov/Politics 15
 AP U.S. History 15
 AT Chinese Lang: Hist 34
 AT Computer Science 36
 AT Comp Physics 30
 AT Econ: Global 18
 AT English Literature 13
 AT Eng: Writing Workshop/
 Publication 12
 AT Entrepreneurship 39
 AT Env Science/Research
 Field 29
 AT Finite Math Model 24
 AT Geo/Field Research 16
 AT Hist Inquiry/Research 16
 AT Kinesiology 58
 AT Linear Algebra 23
 AT Math: Data Analytics 62
 AT Multivariable Calc 24
 AT Performing Arts 53
 AT Post-Euclidean Geo 23
 AT Psychology 19
 AT Research Catalyst 41
 AT Eng: Research/Compo
 62
 AT Science: Design Think-
 ing 63

AT Seminar 40
 AT Urban Studies 17

B

Band 50
 Behavioral Econ/Game 18
 Biology 25
 Biotechnology 26
 Body Systems 59
 Business 38
 Business of Sports 39

C

Catalyst Project 41
 Ceramics 46
 Chamber Strings 49
 Chemistry 27
 Chinese 32
 Choral Ensemble 51
 Climbing/Adventure 56
 College Preparation 73
 Computer Science 36
 Conceptual Algebra II 21
 Concert Band 50
 Concert Choir 50
 Concert Strings 49
 Creative Writing 10
 Creativity/Innov 63
 Critical Thinking 63
 Cultural Awareness 63

D

Daily Schedule 3
 Dance Courses 52
 Digital Game Dev 37
 Digital Photography 51
 Disciplinary Reporting 75
 Discrete Math 21

E

Economics 17
 Eco-Adventure 71
 Engineering Science 38
 Engineering/Space Tech 28
 English 8 – 13
 Eng Lang Arts Lab 70
 Eng: Research/Compo 62
 Environmental Sci 27

F

Field Hockey 55
 Film/Acting Ensemble 48
 Filmmaking 51
 Fitness Body/Mind 55
 Flag Football 56
 Flexible Learning 72
 Forensic Science 27
 French 32

G

Geometry 21
 Geometry Math Lab 70
 Global Studies 71
 GOA 42
 Golf 55
 Grad Requirements 3
 Graphic Design 36
 Group Fitness 55

Guitar 52

H

Health 59
 History of Malaysia / Singa-
 pore 15
 House System 4
 Human Development 59

I

Imagination 10
 Independent Learning 41
 Indoor Sports 56
 Instrumental Music 50
 Interim Semester 71
 International Sports 56
 Intro to Stats/PreCal 21

J

Jazz Improvisation 50
 Journalism 40

L

Learning Support 70
 Lifeguarding 58
 Life Balance 59
 Life Sciences 26
 Life Skills 59
 Lit and Imagination 10

M

Marine Biology 26
 Math: Data Analytics 62
 Mathematics 20–24
 Maximum Application 74
 Mixed Media / Digital Pro-
 cess 47
 Mobile App Dev 36
 Musical Theater 49

N

New Courses 2
 Newspaper 40

O

Online Learning 42

P

Personal Defense 57
 Personal Finance 39
 Photography 51
 Physical Education 56–58
 Physical Science 28
 Physics 28
 Physiology 26
 Pre-Calculus 22
 Psychology 18

Q

Quest 60

R

Racquet Sports 57
 Reading, Writing and Pub-
 lishing 12
 Robotics 37
 Rugby 56

S

Safety/First Aid 59
 SAS Catalyst Project 41
 SAS Singers 51
 SAT 73
 School Year Abroad 72
 Science 25–35
 Sci: Design Think 63
 Seal of Biliteracy 2
 Service Learning 71
 Sketch Comedy 48
 Soccer 56
 Social Studies 14–19
 Softball 55
 Spanish 31
 Stagecraft 48
 Standardized Testing 74
 Strings Courses 49
 Studies in Satire 11
 Studio Art 46
 Supervised Study 71
 Summer Semester 72
 Symphonic Band 50
 Syracuse University 1

T

TEC 36-45
 Theater Courses 48
 Touch Rugby 56
 Track and Field 57

U

U.S. History 15

V

Visual Arts 46
 Vocal Music 50

W

Weight Training 57
 Wellness 59
 Wind Ensemble 50
 World History 14
 World Literature 11
 World Studies 9

Y

Yearbook 40

Z

Zoology 27

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