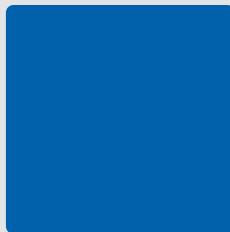


PXHS

COURSE CATALOG

2026-27



**SHANGHAI
AMERICAN
SCHOOL**

Illustration by Evelyn M. '28

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SAS is fully accredited by the Western Association of Schools and Colleges (WASC) and is an IB World School. SAS is also a member of CIS, EARCOS, and NACAC.

SCHOOLWIDE TRANSFER GOALS

A Shanghai American School education equips students to transfer their knowledge and skills beyond the classroom, in authentic settings, over a lifetime.

CRITICAL THINKERS — SAS students are critical thinkers who develop ideas and construct arguments by questioning, evaluating, synthesizing, and considering perspective. SAS students ...

- Consider multiple approaches and perspectives to evaluate decisions
- Ask relevant, discerning questions to stimulate reflection
- Evaluate evidence and sources to support arguments and conclusions
- Synthesize and apply new understanding to a variety of contexts

SKILLFUL COMMUNICATORS — SAS students are skillful communicators who advocate for self, others, and ideas in more than one language by listening, responding, and articulating through multiple media. SAS students ...

Use appropriate listening skills to integrate information across contexts

- Respond to emotions in self and in others
- Articulate ideas with exceptional clarity
- Select an appropriate medium/a to communicate with an audience

EFFECTIVE COLLABORATORS — SAS students are effective collaborators who help teams innovate outcomes to achieve a goal by holding themselves and others accountable, contributing in productive ways, and sustaining respectful interactions. SAS students ...

- Hold themselves and others accountable for team agreements
- Build on the perspectives and contributions of others
- Develop and implement appropriate strategies to manage interactions

CREATIVE LEARNERS — SAS students are creative learners who engage their imaginations to generate novel ideas, demonstrate flexible thinking, evaluate approaches, and take action. SAS students ...

- Use their imagination to generate novel ideas
- Demonstrate flexible thinking
- Use strategies to evaluate the creative process
- Execute ideas with exceptional clarity and effectiveness

ETHICAL GLOBAL CITIZENS — SAS students are ethical global citizens who take action based on informed decisions filtered through empathy, integrity, sustainability, and social justice. SAS students ...

- Acknowledge and respect perspectives and cultures with consideration and care
- Take action with honesty and sincerity
- Make decisions and take actions to impact sustainability significantly
- Engage in authentic opportunities to impact others positively

SAS MISSION

Shanghai American School inspires in all students:

上海美国学校激励并培养所有的学生:

A lifelong passion for learning
终身学习的热情

A commitment to act with integrity and compassion
诚信和仁爱的信念

The courage to live their dreams.
追求梦想的勇气。

“BEST FIT” PHILOSOPHY

At Shanghai American School we counsel and strongly encourage families to select an academic program that is guided by our “Best Fit” philosophy. In short, this means taking a program of study that:

- Develops the student’s strengths, interests, and passions
- Matches the student’s learning style
- Challenges the student to grow and develop into a vibrant member of our learning community
- Prepares the student to pursue their preferred course of study in the country of their choosing.

COURSE RIGOR

SAS advises students to take a maximum of 3 IB HL or 3 AP courses in Grades 11 and 12. The most rigorous SAS academic program is defined as 7 AP and/or IB HL credits over a student’s high school career.

COURSE OFFERINGS

This catalogue represents courses that may be offered in the coming school year. It is based on the number of student requests as to whether a course will run.



GRADUATION REQUIREMENTS

The School’s graduation requirements are designed to meet accreditation standards and entry requirements for a wide variety of colleges. To be eligible for high school graduation, a student must:

- Earn a minimum of 24 credits
- Attend eight semesters of high school in Grades 9 to 12 (therefore no student may graduate early)
- Attend SAS for all of Grade 12

Subject area requirements for graduation include:

- English 4.0 credits
- Mathematics 3.0 credits
- Science 3.0 credits
- Social Studies 3.0 credits
- Art 2.0 credits
- Global Languages 2.0 credits (2 years of the same language)
- Physical Education/Health 2.0 credits
- Electives 5.0 credits



Learning Lab

SHANGHAI AMERICAN SCHOOL

UNLOCK YOUR HIGH SCHOOL EXPERIENCE

High School at Shanghai American School is exciting and offers endless opportunities for all students to explore new interests, discover individual paths, and reach their potential. Our signature Learning Lab program is designed to empower students to engage deeply with their learning, fostering essential skills that will guide them throughout their academic journey and beyond.

In Learning Lab, students immerse themselves in the Transdisciplinary Transfer Goals (TTGs). These core competencies help students not only understand the TTGs but also apply their knowledge in real-world situations, cultivating a sense of agency and confidence.

Grade 9

TTG	Developing	Approaching	Meeting	Exceeding
Critical Thinking	I can think about a topic to understand it better.	I can explain how things are related and make conclusions based on evidence.	I can analyze ideas using clear reasoning to find connections and patterns in the topic.	I can critically assess the quality of evidence and interpret the deeper significance of ideas.
Creativity	I can generate ideas that do not directly connect to the problem.	I can come up with ideas that relate to the problem and recognize others' ideas.	I can generate several ideas that directly connect to the problem and take creative risks.	I can design innovative solutions that effectively tackle the problem/task.
Communication	I can talk about what I read or heard in a basic way.	I can explain the main message and share information that interests others.	I can articulate an analysis of the main message, effectively engaging my audience.	I can communicate complex ideas clearly and effectively, tailoring my message to specific audiences.
Collaboration	I understand the importance of contributing to group projects.	I am starting to contribute ideas in group settings.	I regularly contribute helpful ideas for managing and completing group work effectively.	I consistently generate innovative ideas and take leadership roles in group efforts.
Resilience	I am learning to deal with setbacks and negative feedback.	I can demonstrate grit when faced with challenges by reflecting on solutions.	I can adapt and persevere through setbacks, seeking feedback to improve.	I exhibit strong perseverance and actively support others in overcoming challenges.

The program emphasizes metacognition, allowing students to reflect on their learning processes. Through structured instruction and collaborative projects, they learn to set goals, monitor their progress, and adjust strategies, making their educational experience both personal and meaningful.

Inquiry Facilitators (IFs) serve as mentors and co-designers of learning experiences, working alongside students and teachers to create dynamic and engaging learning environments. This collaborative approach ensures that the best practices in education are not isolated but become integral to the school culture, promoting a supportive community where every student feels valued and connected.

Learning Lab is not just another class; it's a transformative experience that prepares students to navigate the complexities of high school and the challenges of the future.

By embracing their unique identities and interests, students develop resilience and a strong sense of belonging, setting them on a path to thrive both academically and personally.



Program Requirements include the successful completion of: Grade 9 and 10 Journal and Impact Expo; Grade 10 Service Learning/Community Building Project; TTG Collaborative Activities; Complete TTG Reflections



The International Baccalaureate (IB) Diploma Program

The International Baccalaureate Diploma Program is a rigorous preuniversity course of studies that meets the needs of highly motivated secondary school students.

Designed as a comprehensive two-year curriculum that allows its graduates to fulfill requirements of various national education systems, the diploma model is based on the pattern of no single country but incorporates the best elements of many. It is a deliberate compromise between the specialization required in some national systems and the breadth preferred in others.

All students who take IB courses are required to take the IB exam at the conclusion of the course. Students may register for individual IB courses or for the full IB diploma.

basis of knowledge, to be aware of subjective and ideological biases, and to develop a personal mode of thought based on analysis of evidence expressed in rational argument. The key element in the IBO's educational philosophy, TOK seeks to develop a coherent approach to learning, which transcends and unifies the academic areas and encourages appreciation of other cultural perspectives.

Extended Essay (EE)

Students must undertake original research and write an extended essay of some 4,000 words. This offers the opportunity to investigate a topic of special interest from within one of their six examination subjects. It also acquaints students with the kind of independent research and writing skills expected at university. Each student works under the guidance of an appropriate subject teacher and will spend approximately 40 hours of private study and writing time to complete the essay.

Creativity, Activity, and Service (CAS)

The Creativity, Activity, Service (CAS) program involves students in experiential learning through a range of artistic, physical and service activities. It enables students to demonstrate attributes of the IB learner profile in real and practical ways, to grow as unique individuals and to recognize their role in relation to others. Students develop skills, attitudes and dispositions through a variety of individual and group experiences that provide opportunities to explore their interests and express their passions, personalities and perspectives. CAS complements a challenging academic program in a holistic way, providing opportunities for self-determination, collaboration, accomplishment and enjoyment.

Learner Profile

The aim of all IB Programmes is to develop internationally minded people who, recognizing their common humanity and shared guardianship of the planet, help to create a better and more

peaceful world.

Examination Information

Students who register for IB courses must sit for the external exams in May. The registration fees and costs of the exams are the

IB Diploma Subject Requirements

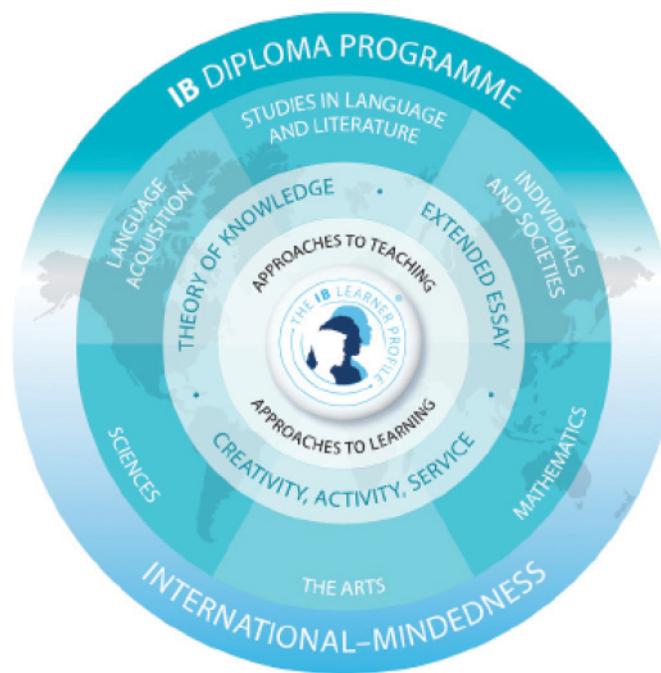
Diploma candidates are required to select one subject from each of the six subject groups, although they can choose a second subject from groups 1 to 4 instead of a creative arts subject. Usually three subjects are taken at Higher Level (HL) and three others at Standard Level (SL). Higher Level courses cover 240 teaching hours and Standard Level courses cover 150 teaching hours. Hence, over a two-year period, some subjects are studied in depth.

Additional IB Diploma Requirements

The program offers special features in addition to the six subjects of the curriculum that are central to the diploma.

Theory of Knowledge (TOK)

Students must complete an interdisciplinary course called Theory of Knowledge (TOK). This course is designed to stimulate critical reflection upon the knowledge and experiences gained inside and outside the classroom. TOK challenges students to question the



IB Course Offerings 2026-27

IB Diploma candidates choose:

- 3 HL courses and 3 SL courses
- 1 course from each of the 6 groups, plus Theory of Knowledge (TOK)
- A second course from Groups 1-4 may be substituted for a course in Group 6.

Group 1

- English A: literature HL/SL
- English A: language & literature HL/SL
- Chinese A: language & literature HL/SL
- Self-taught Language A: literature SL

Group 4

- Biology HL/SL
- Chemistry HL/SL
- Physics HL/SL
- Environmental Systems & Societies HL/SL
(can count as group 3 or 4 or as both 3 & 4)
- Sports, Exercise & Health Science HL/SL
- Computer Science HL/SL

Group 2

- Mandarin B HL/SL
- Mandarin ab initio SL
- French B HL/SL
- French ab initio SL
- Spanish B HL/SL
- Spanish ab initio SL

Group 5

- Math: Analysis and Approaches HL/SL
- Math: Applications and Interpretation HL/SL



Group 3

- Economics HL/SL
- History HL/SL
- Psychology HL/SL
- Environmental systems & societies HL/SL
(can count as group 3 or 4 or as both 3 & 4)
- Philosophy SL*
- Business and Management HL/SL*
- Global Politics HL/SL

Group 6

- Music SL/HL
- Theatre SL/HL
- Visual Arts SL/HL
- Film SL/HL
- Dance SL/HL

* These courses will be taught through Pamoja, an on-line provider.

The Advanced Placement (AP) Program



responsibility of the family.

The Advanced Placement (AP) Program is a challenging academic program designed to provide motivated high school students with college-level academic courses.

Established in 1955 by the College Board, the AP Program is considered a standard for academic excellence in the United States. AP courses with qualifying exam grades are accepted for credit, advanced placement or both, by most American colleges and universities.

In addition, AP courses and exam grades are used in the admissions process in more than 400 universities outside of the United States. Students enrolled in an AP course at SAS are encouraged to take the AP exam in May.



AP Capstone

AP Capstone is an innovative program developed by the College Board that gives students an opportunity to apply critical thinking, collaborative problem-solving, and research skills in a cross-curricular context.

AP Capstone is built on the foundation of a new, two-year high school course sequence — **AP Seminar** and **AP Research** — and is designed to complement and enhance the in-depth, discipline-specific study provided through AP courses. It cultivates curious, independent, and collaborative scholars and prepares them to make logical, evidence-based decisions.

AP Capstone was developed in response to feedback from higher education. The two AP Capstone courses, with their associated performance tasks, assessments, and application of research methodology, complement the rigor of AP courses and exams by challenging students to:

- Think critically and creatively to construct meaning or gain understanding
- Plan and conduct a study or investigation
- Propose solutions to real-world problems
- Plan and produce communication in various forms
- Collaborate to solve a problem
- Integrate, synthesize, and make cross-curricular connections

The AP Capstone program begins with the AP seminar course. Students may enroll in this class either grade 10 or grade 11.

The AP Capstone Diploma or AP Capstone Certificate

Students successfully completing the AP Seminar, AP Research, and four or more AP classes and exams will receive the AP Capstone Diploma. Students successfully completing the AP Seminar and AP Research Exams will receive the AP Capstone Certificate.

Examination Information

Students who register for AP courses must sit for the external exams in May. The registration fees and costs of the exams are the responsibility of the family.

AP University recognition link:

<http://international.collegeboard.org/programs/ap-recognition>

AP Capstone™ Diploma

Students who earn scores of 3 or higher in both of the AP Capstone courses and on four additional AP Exams of their choosing will receive the AP Capstone Diploma™.

AP Capstone™ Certificate

Those students who earn scores of 3 or higher in both of the AP Capstone courses but not on the four additional AP Exams will receive the AP Capstone Certificate™, signifying successful performance in those courses.

AP SEMINAR (Year 1)

Team Project & Presentation

Research-based Essay & Presentation

Written Exam

AP RESEARCH (Year 2)

Academic Thesis

Public Presentation and Defense

4 AP COURSES (Throughout High School)

AP EXAM 1

AP EXAM 2

AP EXAM 3

AP EXAM 4

<http://media.collegeboard.com/digitalServices/pdf/ap/ap-capstone-brochure.pdf>
For more information, please visit collegeboard.org/apcapstone



AP Capstone Program Year One: AP Seminar

This foundational course, available to grade 10, 11 and 12 provides students with opportunities to think critically and creatively, research, explore, pose solutions, develop arguments, collaborate, and communicate using various media. Students explore real-world issues through a cross-curricular lens and consider multiple points of view to develop deep understanding of complex issues as they make connections between these issues and their own lives.

Students read articles, research studies, and foundational and philosophical texts; listen to and view speeches, broadcasts, and personal accounts; and explore artistic and literary works to gain a rich appreciation and understanding of issues.

Teachers have the flexibility to choose appropriate themes that allow for deep exploration based on student interests, local and/or civic issues, global or international topics, and concepts from other AP courses.

Sample Topics or Themes:

- Education
- Innovation
- Sustainability
- Technology
- Revolution

Assessment: During the course, students will be assessed on:

- A team project
- An individual paper and presentation
- A written final exam
- The AP Seminar Exam will be based on all three components and be reported on the standard 1- 5 AP scoring scale.

AP Capstone Program Year Two: AP Research

The second course in the AP Capstone experience, available to grade 11 and 12, allows students to design, plan, and conduct a yearlong research-based investigation on a topic of individual interest. Through this inquiry and investigation, students demonstrate the ability to apply scholarly understanding to real-world problems and issues.

Students further the skills acquired in their AP Seminar course by using research methodology; employing ethical research practices; and accessing, analyzing, and synthesizing information to build, present, and defend an argument.

Assessment: Students are assessed through culminating performance tasks:

- Academic thesis paper (approximately 5,000 words) with a defined structure.
- Public presentation, performance, or exhibition and oral defense of research and presentation.
- The AP Research Exam score will be based on the paper, presentation, and defense and will be reported on a 1-5 AP scoring scale.

AP Capstone Diploma

Students earning passing scores in the seminar course and on the research project, as well as scores of 3 or higher on a minimum of four additional AP Exams, will receive the AP Capstone Diploma, demonstrating their proficiency in college-level subject knowledge, as well as research, communication and collaborative skills.



NEW - SAS GENERATIVE TECHNOLOGIES & APPLIED ENGINEERING (GTAE) PATHWAY

SAS is introducing a new Pathway for students interested in disciplines related to Generative Technology and Applied Engineering.

Overview of Pathway:

Grade 9-12	Grade 10-11-12	Grade 11-12
Foundational Year Quarterly Courses NEW 2026-27	Semester Courses Non-sequential NEW 2027-28	Full Year Course
Introduction to Robotics (Robotics & Automation)	Advanced Physical Computing	
Introduction to Product Design & Manufacturing	Machine Learning (deeper dive into AI)	
Introduction to Physical Computing	Generative Tech (LLMs on Raspberries & Machine Learning)	Engineering & Entrepreneurship Capstone Project/Lab NEW 2026-27
Introduction to Applied Engineering	Game Design	
Introduction to Python Programming for Engineers	Immersion Lab (offsite immersion & onsite lab)	
Introduction to Design Theory (for students new to SAS or without Middle School Design Technology experience)	Product Development	
	Cyber Security	AP & IB Courses
		ASAs/Clubs

Please note that any combination is possible. Below are some ideas for possible Pathways to consider:

Interest in Robotics and Engineering: Introduction to Robotics, Introduction to Product Design & Manufacturing, Introduction to Physical Computing, and Applied Engineering.

Interest in Computer Science and Physical Computing: Introduction to Coding for Engineers, Introduction to Physical Computing, Introduction to Robotics, Intro to Applied Engineering.

Interest in Design: Introduction to Design Theory, Applied Engineering, Applied Manufacturing, and Capstone

Follow your own interests: Any combination that gives you the experiences you seek.

MASTER COURSE LIST

ENGLISH		page 16	
Course	Course Codes	Credits	Grades
English 9	HS1000	1	9
English 10	HS1001	1	10
Literature in Film	HS1405	1	10,11,12
English 11	HS1002	1	11
English 12	HS1003	1	12
IB English A: Literature SL Y1-Y2	HS1110 HS1120	2	11 12
IB English A: Literature HL Y1-Y2	HS1130 HS1140	2	11 12
IB English A: Lang. & Lit. SL Y1-Y2	HS1111 HS1121	2	11 12
IB English A: Lang. & Lit. HL Y1-Y2	HS1131 HS1141	2	11 12
AP English Lang. & Composition	HS1200	1	11,12

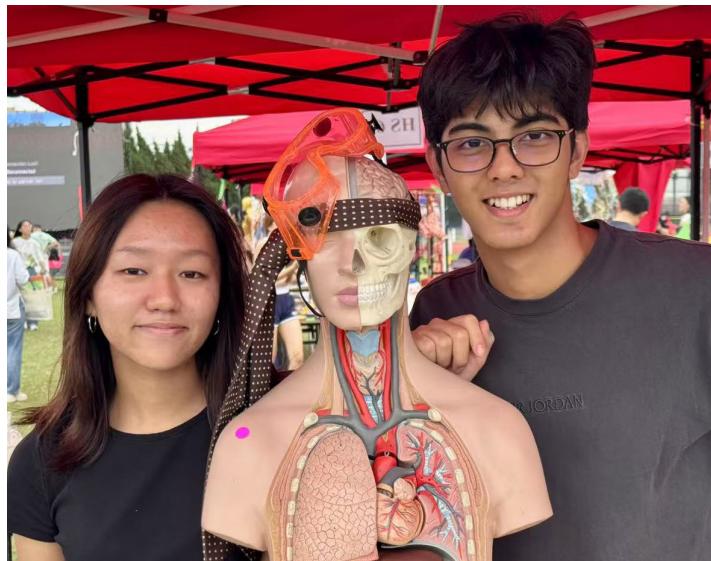
SOCIAL STUDIES		page 22	
Course	Course Codes	Credits	Grades
Asian History	HS2000	1	9
US History	HS2002	1	10,11,12
Sociology	HS2009	1	10,11,12
Applied Economics & Business	HS2018	1	10,11,12
Historical Inquiry	HS2014	1	11,12
IB History SL Y1-Y2	HS2111 HS2121	2	11 12
IB History HL Y1-Y2	HS2131 HS2141	2	11 12
IB Philosophy SL Y1-Y2 *	HS2145 HS2146	2	11 12
IB Environmental Systems & Society SL Y1-Y2	HS4115 HS4125	1 Science 1 S.S.	11 12
IB Environmental Systems & Society HL Y1	HS4115 HS4125	1 Science 1 S.S.	11 12
IB Psychology SL Y1-Y2	HS2113 HS2123	2	11 12
IB Psychology HL Y1-Y2	HS2133 HS2143	2	11 12
IB Economics SL Y1-Y2	HS2114 HS2124	2	11 12
IB Economics HL Y1-Y2	HS2134 HS2144	2	11 12
IB Global Politics SL Y1-Y2	HS2153	1	11,12
IB Global Politics HL Y1-Y2	HS2163	1	11,12
IB Business & Management SL Y1-Y2 *	HS2117 HS2127	2	11 12
IB Business & Management HL Y1-Y2 *	HS2137 HS2147	2	11 12
AP Capstone Seminar: Social Studies	HS2208	1	10,11,12
AP European History	HS2201	1	10,11,12
AP US History	HS2202	1	10,11,12
AP World History: Modern	HS2206	1	10,11,12
AP Psychology	HS2203	1	11,12
AP Microeconomics	HS2209	1	11,12
AP Macroeconomics	HS2210	1	11,12
AP Comparative Government & Politics	HS2205	1	11,12

* These courses will be taught online through Pamoja (see page 53 for more details).

SCIENCE

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Course	Course Codes	Credits	Grades
Physics-Chemistry Lab Science	HS4007	1	9
Biology Lab Science	HS4008	1	10
Chemistry	HS4004	1	11,12
Earth & Space Science	HS4029	1	11,12
IB Environmental Systems & Society SL Y1-Y2	HS4115 HS4125	1 Science 1 S.S.	11 12
IB Environmental Systems & Society HL Y1	HS4115 HS4125	1 Science 1 S.S.	11 12
IB Sports, Exercise & Health Science SL Y1-Y2	HS7030 HS7031	1 Science 1 Elective	11 12
IB Sports, Exercise & Health Science HL Y1-Y2	HS7050 HS7051	1 Science 1 Elective	11 12
IB Biology SL Y1-Y2	HS4110 HS4120	2	11 12
IB Biology HL Y1-Y2	HS4130 HS4140	2	11 12
IB Chemistry SL Y1-Y2	HS4111 HS4121	2	11 12
IB Chemistry HL Y1-Y2	HS4131 HS4141	2	11 12
IB Physics SL Y1-Y2	HS4112 HS4122	2	11 12
IB Physics HL Y1-Y2	HS4132 HS4142	2	11 12
AP Biology	HS4200	1	11,12
AP Chemistry	HS4201	1	11,12
AP Physics 1	HS4210	1	11,12
AP Physics C: Mechanics	HS4208	1	11,12
AP Physics C: Electricity & Magnetism	HS4209	1	11,12



GLOBAL LANGUAGES

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Course	Course Codes	Credits	Grades
Accelerated Beginner French	HS5054	1	9,10,11,12
Intermediate French	HS5055	1	10,11,12
Intermediate Low French	HS5056	1	9,10,11,12
Intermediate High French	HS5057	1	10,11,12
IB French B SL Y1-Y2	HS5110 HS5120	2	11 12
IB French B HL Y1-Y2	HS5130 HS5140	2	11 12
IB French <i>Ab Initio</i> SL Y1-Y2	HS5151 HS5152	2	11 12
Accelerated Beginner Spanish	HS5058	1	9,10,11,12
Intermediate Spanish	HS5059	1	10,11,12
Intermediate Low Spanish	HS5060	1	9,10,11,12
Intermediate High Spanish	HS5061	1	10,11,12
IB Spanish B SL Y1-Y2	HS5111 HS5121	2	11 12
IB Spanish B HL Y1-Y2	HS5131 HS5141	2	11 12
IB Spanish <i>Ab Initio</i> SL Y1-Y2	HS5155 HS5156	2	11 12
IB Self-Taught Language A1 SL Y1-Y2	HS5102 HS5103	2	11 12

CHINESE LANGUAGE

page 35

Course	Course Codes	Credits	Grades
Novice Chinese	HS5024	1	9,10,11,12
Intermediate Low	HS5025	1	9,10,11,12
Intermediate Mid	HS5026	1	9,10,11,12
Intermediate High	HS3033	1	9,10,11,12
Advanced Low	HS5031	1	9,10,11,12
Advanced Mid	HS5032	1	9,10,11,12
Advanced High	HS3034	1	9,10,11,12
Superior	HS5147	1	9,10,11,12
IB Mandarin <i>Ab Initio</i> SL	HS5159 HS5150	2	11 12
IB Mandarin B SL Y1-Y2	HS5113 HS5123	2	11 12
IB Mandarin B HL Y1-Y2	HS5133 HS5143	2	11 12
IB Chinese A: Lang. & Lit. SL Y1-Y2	HS5114 HS5124	2	11 12
IB Chinese A: Lang. & Lit. HL Y1-Y2	HS5134 HS5144	2	11 12

VISUAL ARTS				page 40
Course	Course Codes	Credits	Grades	
Art Lab	HS6064	1	9,10,11,12	
Intermediate Art Studio	HS6207	1	10,11,12	
Advanced Art Studio	HS6208	1	11,12	
IB Visual Art SL Y1-Y2	HS6110 HS6120	2	11 12	
IB Visual Art HL Y1-Y2	HS6130 HS6140	2	11 12	
IB Film SL Y1-Y2	HS8165 HS8175	2	11 12	
Intro to Digital Filmmaking	HS8001	1	9,10,11,12	
Design Theory	HS8506	1	9,10,11,12	

APPLIED ARTS				page 47
Course	Course Codes	Credits	Grades	
Fundamentals of Physical Computing	HS7018	0.5	9,10,11,12	
Fundamentals of Robotics	HS8011	0.5	9,10,11,12	
Advanced Physical Computing	HS7028	1	9,10,11,12	
Fundamentals of Web Design	HS8006	0.5	9,10,11,12	
Fundamentals of Applied Engineering	HS8006	0.5	9,10,11,12	
Fundamentals of Coding for STEM (Control Systems)	HS8006	0.5	9,10,11,12	
Fundamentals of Game Development	HS8006	0.5	9,10,11,12	
STEM-GTAE Gateway (Generative Technologies & Applied Sciences)	HS8006	1	9,10,11,12	

PERFORMING ARTS				page 43
Course	Course Codes	Credits	Grades	
Concert Choir 1	HS6020	1	9,10,11,12	
Concert Choir 2	HS6021	1	9,10,11,12	
Concert Band 1	HS6022	1	9,10,11,12	
Concert Band 2	HS6023	1	9,10,11,12	
Orchestra	HS6019	1	9,10,11,12	
Music Production 1	HS7016	1	9,10,11,12	
Music Production 2	HS7017	1	10,11,12	
Guitar 1	HS6026	1	9,10,11,12	
Guitar 2	HS6027	1	9,10,11,12	
IB Music SL Y1-Y2	HS6111 HS6121	2	11,12	
IB Music HL Y1-Y2	HS6131 HS6141	2	11,12	
Theatre Performance	HS6029	0.5	9,10,11,12	
Theatre Production Design	HS6030	0.5	9,10,11,12	
Advanced Dance	HS7015	1	9,10,11,12	
Dance 1-2	HS7010	0.5-1	9,10,11,12	
IB Dance SL Y1-Y2	HS7013 HS7023	1	9,10,11,12	
IB Dance HL Y1-Y2	HS7023 HS7043	1	9,10,11,12	
IB Theatre SL Y1-Y2	HS6112 HS6122	2	11 12	
IB Theatre HL Y1-Y2	HS6132 HS6142	2	11 12	

NEW - SAS GENERATIVE TECHNOLOGIES & APPLIED ENGINEERING (GTAE) PATHWAY				page 50
Course	Course Codes	Credits	Grades	
Introduction to Robotics (Robotics & Automation)	HS0009	0.25	9,10,11,12	
Introduction to Product Design & Manufacturing	HS0009	0.25	9,10,11,12	
Introduction to Physical Computing	HS0009	0.25	9,10,11,12	
Introduction to Python Programming for Engineers	HS0009	0.25	9,10,11,12	
Introduction to Applied Engineering	HS0009	0.25	9,10,11,12	
Introduction to Design Theory	HS0009	0.25	9,10,11,12	
Engineering Capstone	HS8406	1	9,10,11,12	

PHYSICAL & HEALTH EDUCATION				page 52
Course	Course Codes	Credits	Grades	
Physical & Health Education 1	HS7000	1	9	
Physical & Health Education 2	HS7001	1	10	
PE 3 – Personal Fitness	HS7002	0.5	11,12	
PE 3 – Swimming & Water Safety Instructor	HS7006	0.5	11,12	
PE 3 – Lifeguarding	HS7007	0.5	11,12	

ELECTIVE COURSES				page 54
Course	Course Code	Credits	Grades	
Theory of Knowledge Y1-Y2	HS8101 HS8102	1	11 12	
AP Research	HS8400	1	11,12	
AP Computer Science Principles: Python	HS8204	1	11,12	
AP Computer Science A	HS8201	1	11,12	
IB Computer Science SL Y1-Y2	HS8115 HS8125	2	11,12	
IB Computer Science HL Y1-Y2	HS8135 HS8145	2	11,12	
IB Sports, Exercise, & Health Science SL/HL Y1-Y2	HS7050 HS7051	1 Science 1 Elective	11,12	
Independent Study	HS8405	1	11,12	

LEARNING SUPPORT				page 57
Course	Course Code	Credits	Grades	
Learning Support	HS8901	0	9,10,11,12	

ONLINE LEARNING				page 58
Course	Course Codes	Credits	Grades	
Pamoja Education	HS0	TBD	11,12	
Virtual High School	HS9100	TBD	11,12	
Global Online Academy	HS9103	TBD	11,12	

ENGLISH COURSES**English Department Flow Chart**

Grade 9 students must enroll in:

English 9

Grade 10 students must enroll in:

Literature in Film (with permission)**English 10**

Grade 11 students may choose any of the courses below based on meeting prerequisites:

English 11**AP English Language & Composition****AP English Literature & Composition****Literature in Film****IB English A: Language & Literature SL/HL**
(two-year course)**IB English A: Literature SL/HL**
(two-year course)**English 12****AP English Language & Composition****AP English Literature & Composition****Literature in Film****Legend**

- AP course
- IB course
- SAS course

English 9

Course Code: HS1000

Duration: Year

Prerequisites: None

Credits: 1.0

In this course, students analyze a wide range of literature that is connected to a variety of different cultures. Students study the following genres: novel, short story, poetry, drama, and nonfiction. The literature serves not only as a vehicle for understanding human experience more richly but also as a means for developing critical thinking, language, and communication skills. Students learn the tools of literary analysis and explore a variety of writing styles and forms. Oral communication skills are developed through participation in seminars, discussions, and oral/dramatic presentations.

English 10

Course Code: HS1001

Duration: Year

Prerequisites: English 9

Credits: 1.0

In this course, students study a range of historical and contemporary literature, exploring a variety of genres students are encouraged to make connections between the literature and their experiences as multicultural students. The writing process is used to allow students to explore a variety of writing styles and forms. Students' oral communication skills are developed through participation in seminars, discussions, and oral/dramatic presentations.

Literature in Film

Course Code: HS1405

Duration: Year

Prerequisites: English 9, 10, or 11 (rising G10 students must get permission)

Credits: 1.0

In this course, students will delve into the rich interplay between literature and film, exploring how literary works are adapted for the screen. Through a curated selection of literary works and their film adaptations, students will analyze narrative literary and cinematic techniques, character and thematic development, and examine and discuss the recurring question: Is the movie really as good as the book?

English 11

Course Code: HS1002

Duration: Year

Prerequisites: English 10

Credit: 1.0

This course is an opportunity for students to continue a deeper exploration of various literary genres and to develop the skills of close reading and literary analysis, as well as both written and oral expression. Through the study of a variety of genres, students are encouraged to connect aspects of the texts they read with their own personal knowledge and experience. Students will be expected to produce a variety of assessments such as written essays, oral presentations, creative pieces, and visual projects.

English 12

Course Code: HS1003

Duration: Year

Prerequisites: English 11 or AP Language

Credit: 1.0

In this course students will develop their understanding of texts and refine their ability to analyze creative works. The course is focused on developing student skills in reading, analysis, written expression, speaking and listening. Students will be expected to read critically, comprehend, and respond to the works through class discussions and written assignments. A variety of assessment types will be used to develop skills including oral presentations, written tasks, podcast and projects.

IB English A: Literature SL/HL

Course Codes: HS1110 (SL Y1); HS 1120 (SL Y2); HS1130 (HL Y1); HS1140 (HL Y2)

Duration: Two years

Prerequisites: English 10

Credits: 2.0

This course is designed for students interested in developing their analytical skills through the study of literary texts. The areas of exploration in the course include:

- Readers, writer and texts – exploring the nature and purpose of literature and the ways in which texts can be read, interpreted and responded to
- Time and Space – draws attention to the fact that texts are not isolated entities, but are connected to space and time
- Intertextuality: connecting texts – focuses on the connections between and among diverse texts, traditions, creators and ideas

Each of these is accompanied by six questions, linked to course concepts, that provide a guide to the learning in each part of the course.

The emphasis of the course will be on developing the skills of independent literary analysis, critical reading and the powers of expression in both written and oral communication through the study of literature in a variety of media and modes, from different periods, styles, genres and cultures.

Written compositions, exams, and oral commentary will be assessed through internal (school) and external (IBO) assessments. At Standard Level students read 9 texts, some in translation, in order to complete the IB assessment tasks.

At Higher Level a greater depth of material is covered and students read 13 texts, some in translation, in order to complete the IB assessment tasks.

The internal assessment task for HL is more demanding than that of SL, requiring more texts to be used and a longer presentation. There is also an additional essay HL students will complete. In addition, the external assessment criteria require the HL students to show a deeper understanding of content, complete a more in-depth task and show a greater ability to analyze a writer's techniques than SL students.

IB English A: Language & Literature SL/HL

Course Codes: HS1111 (SL Y1); HS 1121 (SL Y2); HS1131 (HL Y1); HS1141 (HL Y2)

Duration: Two years

Prerequisites: English 10

Credits: 2.0

The Language and Literature course is designed to encourage students to question the meaning generated by language and texts. Students will develop their analytical skills through the study of literary texts, nontraditional texts and topics dealing with language in cultural contexts, and language in mass communication.

Areas of exploration in the course include::

- Readers, writer and texts – exploring the nature and purpose of literature and the ways in which texts can be read, interpreted and responded to
- Time and Space – draws attention to the fact that texts are not isolated entities, but are connected to space and time
- Intertextuality: connecting texts – focuses on the connections between and among diverse texts, traditions, creators and ideas

Each of these is accompanied by six questions, linked to course concepts, that provide a guide to the learning in each part of the course.

The emphasis of the course will be on developing the skills of independent textual analysis, critical reading and the powers of expression in both written and oral communication through the study of language and literature in a variety of media and modes, from different periods, styles, genres and cultures.

Written compositions, exams, and oral commentary will be assessed through internal (school) and external (IBO) assessments.

All students are expected to read a breadth of non-literary texts. In addition:

Standard Level students read four texts, some in translation, in order to complete the IB assessment tasks.

At Higher Level, a greater depth of material is covered and students read six texts, some in translation, in order to complete the IB assessment tasks.

The internal assessment task, the individual oral, is the same for HL and SL. Both SL and HL students sit for Paper 1 and Paper 2 external exams, but Paper 1 for HL students includes analysis of two non-literary texts while SL students only examine one. There is an additional essay HL students will complete.

AP English Language & Composition

Course Code: HS1200

Duration: Year

Prerequisites: English 10

Credits: 1.0

The AP English Language and Composition course cultivates the reading and writing skills that students need for college success and for intellectually responsible civic engagement. The course guides students in becoming curious, critical, and responsive readers of diverse texts and becoming flexible, reflective writers of texts addressed to diverse audiences for diverse purposes. The reading and writing students do in the course deepens and expands their understanding of how written language functions rhetorically: to communicate writers' intentions and elicit readers' responses in particular situations.

Students will focus on the development and revision of evidence-based analytic and argumentative writing, the rhetorical analysis of nonfiction texts, and the decisions writers make as they compose and revise. Students will evaluate, synthesize, and cite research to support their arguments. Additionally, they will read and analyze rhetorical elements and their effects in nonfiction texts — including images as forms of text — from a range of disciplines and historical periods.

AP English Literature & Composition

Course Code: HS1201

Duration: Year

Prerequisites: English 10

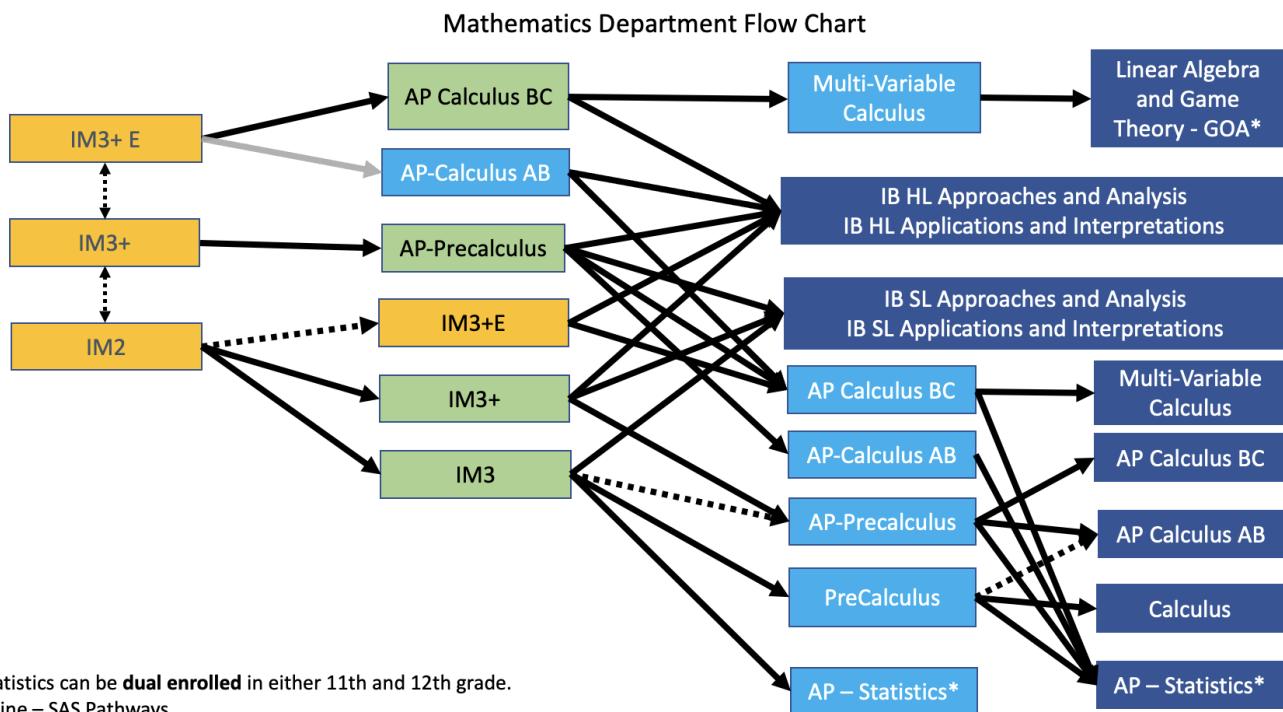
Credits: 1.0

Advanced Placement English Literature and Composition is a course for students who have both the desire and ability to read college level literature in high school. The course engages students in the careful reading and critical analysis of imaginative literature. Through the close reading of selected texts, students deepen their understanding of the ways writers use language to provide both meaning and pleasure for their readers.

Reading in an AP course is both wide and deep. This reading necessarily builds upon and complements the reading done in previous English courses so that by the time students complete their AP course, they will have read works from several genres and periods — from the 16th to the 21st century. More importantly, they will have gotten to know a few works well. Extensive reading, writing tasks, and projects are assigned for completion both in and out of class.



MATHEMATICS COURSES



Integrated Math 1 (IM1)

Course Code: HS3203

Duration: Year

Prerequisites: Pre-Algebra equivalent

Credits: 1.0

Integrated Mathematics 1 is the first of a three-course sequence based on Common Core State Standards. Integrated Math 1 topics include recognizing and developing patterns using tables, graphs, and equations. Mathematical modeling is stressed as a methodology for approaching the solution to problems. Students will explore operations on algebraic expressions and apply mathematical properties to algebraic equations. Students will problem solve using equations, graphs and tables, and investigate linear relationships, including comparing and contrasting options and decision-making using algebraic models. Reinforcement of topics from two-dimensional Geometry is integrated into this curriculum. This includes applications from the areas of perimeter and area, the Pythagorean Theorem and its applications, as well as geometric proportion. Technology will be used to introduce and expand upon the areas of study listed above. This course requires students to have a TI-Nspire calculator (Non-CAS version).

Integrated Math 2 (IM2)

Course Code: HS3205

Duration: Year

Prerequisites: Integrated Math 1

Credits: 1.0

Integrated Math 2 is the second course of the Integrated Mathematics progression based on Common Core State Standards. This course continues to explore functions through different representations of quadratic, exponential, trigonometric and other relationships while connecting the ideas and algebra of irrational numbers. An introduction to proofs includes but is not limited to trigonometric ratios, similarity and circle theorems. Basic elementary probability focuses on the ideas of compound events and conditional probability, as well as the use of probability to evaluate outcomes of decisions. Additional topics include right triangle trigonometry and using data to build models. A main focus of this course is the application of main ideas in new and different contextual situations. This course requires students to have a TI-Nspire calculator (Non-CAS version).

Integrated Math 3 (IM3)

Course Code: HS3207

Duration: Year

Prerequisites: B+ in Integrated Math 2

Credits: 1.0

Integrated Math 3 is the third course of the Integrated Mathematics progression based on Common Core State Standards. This course continues to explore functions through different representations of polynomial, exponential and trigonometric relationships. Emphasis will be placed on applying trigonometric concepts to general triangles, the unit circle, trigonometric equations and identities. Additional topics include statistics and probability with emphasis on statistical inference and using data for mathematical modeling. A focus of this course is the application of the main ideas in new and different contextual situations. This course requires students to have a TI-Nspire calculator (Non-CAS version).

Integrated Math 3 Plus (IM3+)

Course Code: HS3208

Duration: Year

Prerequisites: A in Integrated Math 2

Credits: 1.0

Integrated Math 3 Plus is the third course of the Integrated Mathematics progression based on Common Core State Standards, but the content of the regular Integrated Math 3 course will be explored at a deeper level and the course also covers additional content. This course continues to explore functions through different representations of polynomial, rational, radical, exponential and trigonometric relationships. Emphasis will be placed on applying trigonometric concepts to general triangles, the unit circle, trigonometric equations, and identities. Additional topics include statistics and probability with emphasis on statistical inference and using data for mathematical modeling. The main focus of this course is the application of main ideas in new and different contextual situations.

In addition, this course contains advanced functional analysis, advanced trigonometric modeling, and complex number algebra. This course requires students to have a TI-Nspire calculator (Non-CAS version).

Integrated Math 3 Plus E (IM3+ E)

Course Code: HS3209

Duration: Year

Prerequisites: Integrated Math 1

Credits: 1.0

The IM3 Plus E course offers a comprehensive foundation in essential concepts and skills crucial for excelling in AP Calculus BC. Positioned as the fourth installment in the progression of Integrated Mathematics aligned with the Common Core State Standards, IM3 Plus E delves into the content of the standard Integrated Math 3 course at an accelerated pace, delving deeper and expanding further. This advanced course explores a range of topics including functions and graphs of: polynomial, rational, logarithmic, and exponential functions, circular and right triangle trigonometry. It also included systems of equations, inequalities, polar coordinates, vectors, matrices, sequences/series, and probability.

Students enrolled in this course are expected to possess a TI-Nspire calculator (NonCAS version).

Integrated Math 3 Plus (IM3+) for Grade 9

Course Code: HS3208

Duration: Year

Prerequisites: A in Integrated Math 1

Credits: 1.0

Integrated Math 3 Plus is the third course of the Integrated Mathematics progression based on Common Core State Standards, but students will start with the IM2 content and then explore the IM3Plus content. This course will explore functions through different representations of polynomial, rational, radical, exponential, trigonometric, Probability and Statistics with an emphasis on modelling. The main focus of this course is algebra and application of main ideas in new and different contextual situations.

In addition, this course contains advanced functional analysis, advanced trigonometric modeling, and complex number algebra. This course requires students to have a TI-Nspire calculator (Non-CAS version).

Pre-Calculus

Course Code: HS3004

Duration: Year

Prerequisites: IM3

Credits: 1.0

The major focus of this course is on functions. Topics covered include relations, functions and their graphs, polynomials, rational functions, exponential and logarithmic functions, right triangle trigonometry, laws of sine/cosine, trigonometric identities, graphing of sine and cosine functions and trigonometric modelling. This course is designed for students with gaps in Algebra and prepares them for Calculus. Students are required to purchase a TI-Nspire calculator (Non-CAS version).

Calculus

Course Code: HS3006

Duration: Year

Prerequisites: Pre-calculus

Credits: 1.0

This course explores limits, derivatives of algebraic and transcendental functions, differentiation techniques, related rates, definite integrals, indefinite integrals and anti-differentiation, numerical integration, areas of planar regions, volumes and surface areas of solids of revolution. Students are required to purchase a TI-Nspire calculator (Non-CAS version).

IB Mathematics: Application and Interpretation SL Y1-Y2

Course Codes: HS3113 (Y1), HS3123 (Y2)

Duration: Two years

Prerequisites: B+ in IM3 or higher. Grade 11-12 only

Credits: 2.0

This course is designed for students whose primary interests lie outside mathematics and the physical sciences. Core topics covered include functions, algorithms, sequences and series, applications involving compound interest, probability, statistics, trigonometry, linear programming, geometry in three dimensions, differential calculus, an introduction to integration, and applications to finance.

Writing a mathematical exploration and working on precise math communication are significant parts of this course. Students are required to purchase a TI-Nspire calculator (Non CAS version).

IB Mathematics: Application and Interpretation HL Y1-Y2

Course Codes: HS3133 (Y1), HS3143 (Y2)

Duration: Two years

Prerequisites: A in IM3+ or 96% in IM3. Grade 11-12 only

Credits: 2.0

This course is designed for students with a strong background in mathematics. It prepares students for various areas of university studies such as business, medicine, statistics, economics, and others. In addition to the topics described in SL AI, the HL AI course includes logarithms, complex numbers, polar form, matrices, composite functions, and vectors. This course will also explore differentiation, integration, Probability and Statistics to a much greater depth than the SL AI course.

Writing a mathematical exploration and working on precise math communication are significant parts of this course. IB Math HL AI is for students who like challenges and have excellent study habits. Students are required to purchase a TI-Nspire calculator (Non-CAS version).

IB Mathematics: Analysis and Approaches SL Y1-Y2

Course Codes: HS3114 (Y1), HS3124(Y2)

Duration: Two years

Prerequisites: A- in IM3 or B in IM3+

Credits: 2.0

This course is designed for students with a sound background in mathematics. It prepares students for various areas of university studies such as mathematics, engineering, physical sciences, eco- nomics and others. The topics studied include algebra, functions and equations, circular functions and trigonometry, statistics and probability, differential and integral calculus.

Writing a mathematical exploration and working on precise math communication are significant parts of this course. Students are required to purchase a TI-Nspire calculator (Non-CAS version).

IB Mathematics: Analysis and Approaches HL Y1-Y2

Course Codes: HS3134 (Y1), HS3144(Y2)

Duration: Two years

Prerequisites: A in IM3+

Credits: 2.0

This course is designed for students with a strong background in mathematics and an interest in pursuing university studies in technology, mathematics or the physical sciences. In addition to the topics described in SL AA, the HL AA course includes complex numbers, polar forms, and vectors. This course will also explore functions, differentiation, integration, and statistics to a much greater depth than the SL AA course.

Writing a mathematical exploration and working on precise math communication are significant parts of this course. IB Math HL is for students who like challenges and have excellent study habits. Students are required to purchase a TI-Nspire calculator (Non-CAS version).

AP Pre-Calculus

Course Code: HS3012

Duration: Year

Prerequisites: A- in IM3+ or 96% in IM3

Credits: 1.0

This course is designed to provide students with the opportunity to prepare for Calculus AB and BC and establish a strong foundation in functions. It covers a range of essential topics, including functions and their properties, polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, conic sections, and sequences and series.

Throughout the course, students will actively develop their problem-solving skills and gain a comprehensive understanding of functions through the analysis of graphs, numerical representations, and equations. The primary goal is to foster a deep conceptual understanding of functions and their dynamic relationships. Students will also learn to construct function models based on data and effectively interpret information with accuracy.

Moreover, this course emphasizes the application of knowledge in real-life contexts, enabling students to connect their learning to practical situations and cultivate critical thinking abilities. By providing a solid foundation, AP Precalculus equips students for future studies in mathematics and related fields, setting them on a path to success. Students are required to purchase a TI-Nspire calculator (Non-CAS version).

AP Calculus AB

Course Code: HS3200

Duration: Year

Prerequisites: A in Pre-Calculus or AP Pre-Calculus

Credits: 1.0

This course explores the major topics required for AP Calculus AB, and is equivalent to the first semester of a traditional college calculus course. Topics include limits, derivatives of algebraic and transcendental functions, differentiation techniques, extremization, related rates, Riemann sums and the definite integral, indefinite integrals and anti-differentiation, numerical integration, areas of planar regions, and volumes and surface area of solids of revolution.

Students are required to purchase a TI 84+ calculator. Students are required to purchase a TI-Nspire calculator (Non-CAS version).

AP Calculus BC

Course Code: HS3201

Duration: Year

Prerequisites: A- in AP Pre-Calculus or AP Calculus AB

Credits: 1.0

This course offers a highly accelerated and demanding academic experience characterized by a fast-paced and rigorous curriculum. It features an accelerated version of AP Calculus AB, allowing students to cover the BC syllabus within a single year. This course is equivalent to the first two semesters of university-level calculus. The major topics include those listed in AB Calculus and the additional BC-level topics: improper integrals and further applications of integrals, differential equations and Euler's method, L'Hôpital's rule, analysis of planar curves, polynomial approximations, series, parametric, polar, and vector functions. The offering of this course is subject to enrollment. Students are required to purchase a TI-Nspire calculator (Non-CAS version).

AP Statistics

Course Code: HS3202

Duration: Year

Prerequisites: Student must be at least grade 11 and have completed IM3 or above.

Credits: 1.0

AP Statistics is a course designed to introduce students to the major concepts necessary for collecting, organizing, analyzing, and interpreting data. The four broad conceptual themes are exploring data, designing a study, anticipating patterns using simulations and probability, and statistical inference. While this course relies on complex math concepts, this is not a traditional math course. The major emphases are reading, writing, conceptual understanding, interpretation and judgment, analysis, the ability to compare and contrast. Students are required to have a TI-Nspire calculator (Non-CAS version).

Multivariable Calculus & Series

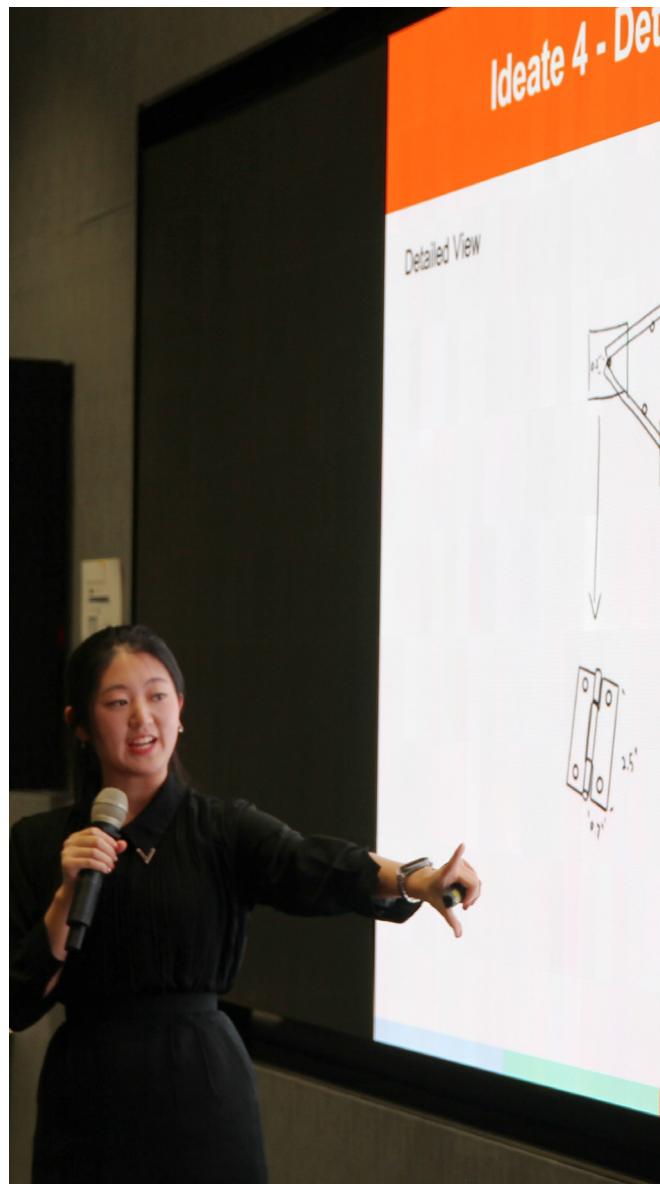
Course Code: HS3204

Duration: Year

Prerequisites: AP Calculus BC

Credits: 1.0

This course is equivalent to a third semester college calculus course. Students investigate the geometry of three-dimensional curves and surfaces, and extend the single-variable concepts of derivatives and integrals to three and more dimensions. The process of finding a minimum or maximum value of a function of several variables is illustrated, and the techniques used to find the volume of a three-dimensional region and the average value of a given function over such a region are explored. Differential and integral calculus of several variables are the focal points of this college-level course which extends the BC Calculus experience to three dimensions, culminating in several calculus applications to physics including Stokes', Green's, and Gauss' Theorems. Students are required to have a TI-Nspire calculator (Non-CAS version).



SOCIAL STUDIES COURSES

Social Studies Department Flow Chart

Grade 9 students must enroll in:

Asian History

Grade 10 students may choose any of the courses below based on meeting prerequisites:

Applied Economics & Business

AP European History

AP World History:
Modern

Sociology

AP US History

AP Capstone Seminar:
Social Studies

US History

Grade 11 and 12 students may choose any of the courses below based on meeting prerequisites:

AP
PsychologyAP Comparative
Government
& PoliticsApplied Economics
& Business

US History

AP Capstone Seminar:
Social StudiesIB Psychology
HL/SL
(two-year course)

Sociology

AP Microeconomics

AP US History

IB Environmental
Systems & Society
HL/SL
(two-year course)
1 credit Science
1 credit Social StudiesIB Global Politics
HL/SL
(two-year course)IB Economics
HL/SL
(two-year course)

AP Macroeconomics

AP European History

* IB Business &
Management HL/SL
(two-year course)IB History SL/HL
(two-year course)AP World History:
Modern

Historical Inquiry

* IB Philosophy SL
(two-year course)

Legend

AP course

IB course

SAS course

* These courses will be taught online through Pamoja.

Asian History

Course Code: HS2000

Duration: Year

Prerequisites: None

Credits: 1.0

Asian History fulfills the Grade 9 Social Studies requirement. This is a general survey course designed to better acquaint students with the history of China. More importantly, this is a course designed to enhance students' ability to think critically. Students develop their skills in analyzing primary and secondary sources and developing historical arguments in writing. In developing this skill set, students ultimately seek to answer the question "How do we tell the story of history?"

US History

Course Code: HS2002

Duration: Year

Prerequisites: Successful completion of Grade 10

Credits: 1.0

U.S. History is a course that will look at major historical events that shaped the identity of the United States. The primary focus of the course is the mid 19th century to the present. The curriculum structure of this course will focus on themes in which students will develop an understanding of the struggles, opportunities, and challenges that have faced America throughout its history. Students will be taught to think critically, develop writing skills, analyze documents and develop historical thinking skills that will prepare them for continued study in the Social Studies area. While there may be content overlap with AP US history, the approach and assessments for this course are not similar to those of the AP test, and will not prepare students for that assessment.

Sociology

Course Code: HS2009

Duration: Year

Prerequisites: Successful completion of Grade 9

Credits: 1.0

This year-long course introduces students to the basic tenets of sociology. Students learn about socialization, characteristics of groups, inequality, ethnicity, gender, and social deviance. Students reflect on their own social situations while learning about social theory and thinkers who have influenced the field. There is an emphasis on understanding the self in relation to social forces, patterns and problems.

Applied Economics & Business

Course Code: HS2018

Duration: Year

Prerequisites: Successful completion of Grade 9

Credits: 1.0

The Applied Business and Economics course aims to equip students with a comprehensive understanding of the ideation, research, market analysis, planning, and management processes involved in owning a business. The course is project-based and involves a simulation project where students will develop a professional business plan proposal. This approach fosters leadership, collaboration, problem-solving, and ethical decision-making skills, as well as enhancing public speaking, presentation, social and business etiquette, and critical thinking abilities. The course emphasizes the analysis of business problems the development of business leadership skills, and provides a deeper understanding of the business world through the lens of an entrepreneur. Throughout the course, students will learn about Entrepreneurship basics, transforming ideas into viable businesses, understanding economics and the market, conducting market research and product development, creating effective marketing and advertising plans, designing business strategies and branding, and managing business finances. As a culmination of their learning, students will engage in a year-long project in which they will build their own business. The project will conclude with a Shark Tank-style pitch, in addition to a business sales day in mid-April. Here, the students will have the opportunity to sell their own products or service. This practical experience further reinforces their understanding of business concepts and enhances their entrepreneurial skills.

IB History SL/HL Y1-Y2

Course Codes:

Duration: Two years

Prerequisites: Successful completion of Grade 10

Credits: 2.0

IB History is a modern world history course that focuses on international and domestic conflicts during the 20th century. Students use course content to perform the critical historical thinking skills of analyzing a variety of sources, conducting independent historical research, and writing historical arguments. Students will study the causes, processes, and effects of major and minor wars, including their economic, ideological, political, social, strategic, technological, and territorial aspects. Both SL and HL students will study the causes of the Second World War in Europe and Asia and the resulting global Cold War as major areas of study.

Higher level coursework: Students will also learn about regional issues in Asia during the 20th century by studying the colonial, diplomatic, military, and political history of China, Japan, Korea, Vietnam, and other nearby nations.

IB Philosophy SL Y1-Y2

Course Codes: HS2145 (Y1), HS2146 (Y2)

Duration: Two years

Prerequisites: Full IB Diploma Students

Credits: 2.0

IB Philosophy is a subject that tackles questions important to humanity. For example, what is it to be a human being and how do I know what is the right thing to do? Students will learn how to think systematically, analyze arguments, and study philosophical themes. They will also be looking at problems facing contemporary society, including those resulting from increased international interaction. IB Philosophy covers major philosophical themes such as moral values, relativism, utilitarianism as well as major philosophical thinkers such as Plato, Socrates, Hegel and Iris Murdoch. Students will also look at questions such as: are human beings special? Are we free and are human beings naturally selfish? They will also get the chance to study an optional theme of your own choice.



This course will be taught online through Pamoja. To full IB Diploma students. For more information visit:
<http://www.pamojaeducation.com/IB-online-courses/>

Historical Inquiry

Course Code: HS2014

Duration: One year

Prerequisites: C or Higher in AP European History, AP US History, or AP World History or teacher recommendation

Credits: 1.0

The Historical Inquiry course takes students through all the steps of the historical research process, from understanding different sources and the approaches historians take to their interpretation, to using library and academic databases to find sources, to structuring an essay and constructing an argument following the appropriate referencing and bibliographic conventions. It provides an introduction to historiography and introduces students to some of the important frameworks through which academic historians approach (and have approached) the past. By surveying and analyzing distinct approaches to the past, the course will ground students in what historiography is and why it matters. It builds on the foundation of historical skills acquired in AP History courses (such as AP World, APUSH, or AP Euro) and prepares students for the more nuanced and complex handling of historiographical concepts and frameworks required at university level. Over the year, students will apply research and argumentation skills to their own historical inquiry, the results of which will be presented in a research paper.

IB Environmental Systems & Society SL Y1-Y2 + HL Y1

+ Y2

Course Codes: HS4115 (Y1), HS4125 (Y2)

Duration: Two years

Prerequisites: Biology Lab Science

Credits: 1.0 Science credit (Y1), 1.0 Social Studies credit (Y2)

The prime intent of this course is to provide students with a coherent perspective of the interrelationships between environmental systems and societies; one that enables them to adopt an informed, personal response to the wide range of pressing environmental issues that they will inevitably come to face. Students' attention can be constantly drawn to their own relationship with their environment and the significance of choices and decisions that they make in their own lives. It is intended that students develop a sound understanding of the interrelationships between environmental systems and societies, rather than a purely journalistic appreciation of environmental issues. Students will be evaluating the scientific, ethical, and socio-political aspects of issues. Field work and other experiential work will be an integral part of the course, some of which may be extended beyond the normal school schedule.

As a trans-disciplinary course, IB Environmental Systems and Society is designed to combine the techniques and knowledge associated with the group 4 (experimental sciences) with those associated with group 3 (individuals and societies). Choosing to study this course as part of the IB diploma program allows students to satisfy the requirement for both groups 3 & 4 of the hexagon. This then allows students to choose another subject from any hexagon group (including another group 3 or 4 subject). At SAS, a student enrolled in the IB Environmental Systems and Society two year course will be awarded a science credit for year 1 and a social studies credit for year 2.

IB Psychology SL/HL Y1-Y2

Course Codes: HS2113 (SL Y1), HS2123 (SL Y2); HS2133 (HL Y1); HS2143 (HL Y2)

Duration: Two years

Prerequisites: Successful completion of Grade 10

Credits: 2.0

IB Psychology examines the interaction of biological, cognitive, and sociocultural influences on human behavior, thereby adopting an integrative approach. Understanding how psychological knowledge is generated, developed and applied enables students to achieve a greater understanding of themselves and appreciate the diversity of human behavior. The ethical concerns raised by the methodology and application of psychological research are key considerations in this course.

IB Psychology takes a holistic approach that fosters intercultural understanding and respect. In the core of the IB Psychology course, the biological level of analysis demonstrates what all humans share, whereas the cognitive analysis reveals the immense diversity of influences that produce human behavior and mental processes. Cultural diversity is explored and students are encouraged to develop empathy for the feelings, needs, and lives of others within and outside their own culture. This empathy contributes to an international understanding.

Higher Level Coursework: Students enrolled in IB Psychology HL must complete:

- all three compulsory levels of analysis
- two options from a choice of five
- qualitative research methodology
- one simple experimental study

IB Economics SL/HL Y1-Y2

Course Codes: HS2113 (SL Y1), HS2123 (SL Y2); HS2134 (HL Y1); HS2144 (HL Y2)

Duration: Two years

Prerequisites: Successful completion of Grade 10

Credits: 2.0

Economics is one of the pillars of modern society, the understanding of which is crucial for leaders in fields from politics to law and business. This course is designed to introduce economic concepts and theories and to develop the skills of economic reasoning and analysis. The course spans two years and will cover units including basic economic concepts, microeconomics, macroeconomics and the global economy. Students' grades will be based on a combination of internal assessments, such as article analyses, quizzes, unit tests, and research projects.

Higher Level Coursework: In addition to the content covered in IB Economics SL, the HL course adds a number of additional areas of study within each of the four units outlined above. HL students will also be asked to engage in analysis and evaluation of economic policies. This is done through the IB Assessment model which has HL students complete an additional writing assessment beyond that of the SL students.

IB Global Politics SL/HL Y1-Y2

Course Codes: HS2153 (SL Y1), HS2154 (SL Y2), HS2163 (HL Y1), HS2164 (HL Y2)

Duration: Two years

Prerequisites: Successful completion of Grade 10

Credits: 2.0

The global politics course explores fundamental political concepts such as power, equality, sustainability, and peace in a range of contexts and at a variety of levels. It allows students to develop an understanding of the local, national, international and global dimensions of political activity, as well as allowing them the opportunity to explore political issues affecting their own lives.

Global politics draws on a variety of disciplines in the social sciences and humanities. It helps students to understand abstract political concepts by grounding them in real world examples and case studies, and invites comparison between such examples and case studies to ensure a transnational perspective.

IB Business Management SL/HL Y1-Y2

Course Codes:

Duration: Two years

Prerequisites: Full IB Diploma Students

Credits: 2.0

Higher Level Coursework: All students enrolled in an AP subject must sit the external exam at the end of the school year.

The Business Management course is a rigorous and dynamic course that explores how business decision-making processes are affected by, and have an impact on internal and external environments. The course covers:

- Business organisation and environment
- Human resources
- Accounting and finance
- Marketing
- Operations management



This course will be taught through Pamoja, an online IB curriculum provider. Registration priority will be given to IB Diploma students. For more information visit: <http://www.pamojaeducation.com/IB-online-courses/>

AP Capstone Seminar: Social Studies

Course Code: HS2208

Duration: Year

Prerequisites: A in Asian History, teacher recommendation or successful completion of Grade 10

Credits: 1.0

This is foundational course of the AP Capstone Program provides students with opportunities to think critically and creatively, research, explore, pose solutions, develop arguments, collaborate, and communicate using various media. Students explore real-world issues through a cross-curricular lens and consider multiple points of view to develop deep understanding of complex issues as they make connections between these issues and their own lives. Students read articles, research studies, and foundational and philosophical texts; listen to and view speeches, broadcasts, and personal accounts; and explore artistic and literary works to gain a rich appreciation and understanding of issues.

AP European History

Course Code: HS2201

Duration: Year

Prerequisites: A in Asian History, teacher recommendation or successful completion of Grade 10

Credits: 1.0

The study of European history since 1450 introduces students to cultural, economic, political, and social developments that played a fundamental role in shaping the world in which they live. In addition to providing a basic narrative of events and movements, the goals of AP European History are to develop (a) an understanding of some of the principal themes in modern European history, (b) an ability to analyze historical evidence and historical interpretation, and (c) an ability to express historical understanding in writing.

AP US History

Course Code: HS2202

Duration: Year

Prerequisites: A in Asian History, teacher recommendation or successful completion of Grade 10

Credits: 1.0

This intensive course covers the entirety of United States history, with a strong emphasis on preparation for the Advanced Placement exam. Strong English reading comprehension and writing skills are the primary requirements. This is considered a college-level course, taught at a college-level pace. This highly challenging course requires a great deal of self-motivation and independent learning. Thematically, the course will address the major historical and political questions of United States history.

AP Psychology

Course Code: HS2203

Duration: Year

Prerequisites: Successful completion of Grade 10

Credits: 1.0

The AP Psychology course is designed to introduce students to the systematic and scientific study of the behavior and mental processes of humans and other animals. Students are exposed to the psychological facts, principles, and phenomena associated with each of the major subfields within psychology. This class is fast paced as there are fourteen units to be covered. There is a large amount of nightly reading and detailed vocabulary to grasp.

AP Microeconomics

Course Code: HS2209

Duration: Year

Prerequisites: Successful completion of Grade 10

Credits: 1.0

This year-long Advanced Placement (AP) Microeconomics course provides a comprehensive study of microeconomic theory and its practical applications. Students will analyze supply and demand, consumer behaviour, production theory, and market equilibrium. They will explore market structures, government intervention, and market failures. Through graphical analysis, mathematical reasoning, and real-world examples, students will develop critical thinking, problem-solving, communication and collaboration skills.

Moreover, this course will allow students to develop their ethical global citizenship by applying economic skills to case studies and analyzing economic models and theories to the real world. Through research, data collection, and analysis, students may be able to make sense of theories of societal and firm efficiency while questioning today's business model of profits seeking in a world facing pressing issues such as climate crisis. In this respect, a unique feature of this course is the market failure project that engages students in investigating their local community to identify a market failure and propose a solution.

The course prepares students for the AP Microeconomics exam through practice with multiple-choice and free-response questions.

AP Macroeconomics

Course Code: HS2210

Duration: Year

Prerequisites: Successful completion of Grade 10

Credits: 1.0

The year-long AP Macroeconomics course offers a comprehensive study of macroeconomic principles and their practical applications in the real world. Students will analyze economic indicators such as GDP, inflation, and unemployment, and investigate the factors that influence economic growth and fluctuations. They will also examine fiscal and monetary policies, international trade, and the role of governments and Central Banks through fiscal and monetary policies; they will apply critical analysis, problem-solving, and data interpretation to case studies. Finally, students will be able to gain an overall understanding of macroeconomic concepts and be able to identify their implications in other contexts or disciplines. The course will prepare students for the AP Macroeconomics Spring exam by honing their analytical skills and effective communication of economic ideas in free response prompts.

AP Comparative Government & Politics

Course Code: HS2205

Duration: Year

Prerequisites: Successful completion of Grade 10

Credits: 1.0

This course will provide students with the conceptual tools necessary to develop an understanding of some of the world's diverse political structures and practices. The course encompasses the study of both specific countries and their governments, as well as general concepts used to interpret the political relationships and institutions found in virtually all national politics. The United Kingdom, Russia, Mexico, Iran, and Nigeria are among the AP Comparative Government and Politics case study countries. They are taught because they provide a foundation for developing an understanding of different types of political systems. The Collegeboard has identified these five 'Big Ideas' that will be studied throughout the course: Sources of Power and Authority, Legitimacy and Stability, Democratization, Internal/External Forces and Methods of Political Analysis.

AP World History: Modern

Course Code: HS2206

Duration: Year

Prerequisites: A in Asian History, teacher recommendation or successful completion of Grade 10

Credits: 1.0

AP World History is an intensive, college-level course designed to explore human history from 1200 C.E. to the present, emphasizing the development of analytical and writing skills necessary for success at a collegiate level and in preparation for the Advanced Placement exam. Strong English reading comprehension and writing skills are the primary requirements. The course devotes considerable time to the critical evaluation of primary and secondary sources, analysis of historiography (the principles, theories, or methodology of scholarly historical research and presentation), and inquiry into global connections that have shaped our present world. This course requires a significant amount of reading, writing, and researching both during and outside of class, and demands a great deal of self-motivation and independent learning.



SCIENCE COURSES

Science Department Flow Chart

Grade 9 students must enroll in:

Physics-Chemistry Lab Science

Grade 10 students must enroll in:

Biology Lab Science

Grade 11 students may choose any of the courses below based on meeting prerequisites:

AP Physics 1

Earth & Space Science

AP Biology

Chemistry

IB Physics SL/HL
(two-year course)IB Environmental Systems & Society SL/HL
(two-year course)
1 credit Science
1 credit Social StudiesIB Biology SL/HL
(two-year course)IB Chemistry SL/HL
(two-year course)IB Sports, Exercise, & Health Science SL/HL
(two-year course)
1 credit - Science
1 credit Elective

AP Chemistry

AP Physics 1

Earth & Space Science

AP Biology

Chemistry

AP Physics C
MechanicsIB Environmental Systems & Society SL Y1
+ HL Y1
(if Science graduation requirements have already been met)

AP Chemistry

AP Physics C
Electricity & Magnetism

Legend

AP course

IB course

SAS course

Physics-Chemistry Lab Science

Course Code: HS4007

Duration: Year

Prerequisites: This course is for Grade 9 students

Credits: 1.0

This lab science course focuses on the use of science and engineering practices to develop conceptual understandings in basic chemistry and physics. This course also explores cross-cutting concepts that unite the sciences and allow students to make connections beyond the sciences. Each student will also be required to complete an independent investigation or engineering design project that further explores an area of student interest with a physical science conceptual focus. This grade 9 lab science course is based on the Next Generation Science Standards and focuses on Physics and Chemistry. Through units on: motion; energy conservation; momentum, electrostatics; chemical reactions; factors that affect chemical reactions; equilibrium.

Biology Lab Science

Course Code: HS4008

Duration: Year

Prerequisites: This course is designed for Grade 10 students.

Credits: 1.0

Biology is the scientific study of life. In this course we will embrace knowledge of life through scientific actions, such as: inquiry, development of models, laboratory investigations, data analysis and interpretation, mathematics, scientific argumentation, forming scientific explanations from evidence, and engaging in the scientific community through reading literature and communicating new ideas. The scientific skills that we practice and complete will not only allow us to discover biology content knowledge, but prepare us for the thinking needed to be an informed citizen and 21st century scientist.

The grade 10 Biological Lab Science course is based on the Next Generation Science Standards and focuses on the following units: Evolution, Genetics, Human Physiology, Ecosystems, and an Independent Capstone Project.

Chemistry

Course Code: HS4004

Duration: Year

Prerequisites: Biology Lab Science

Credits: 1.0

This Chemistry course is a high school level chemistry course designed for students who will enter AP Chemistry the following year. The same units studied in the AP Chemistry course will be examined in this course. This course will address some of the simpler concepts in each of the AP units in order to lay a strong foundation for the AP course. Lab work will be at a strong high school level, and will teach students how to be scientific inquirers.

Earth & Space Science

Course Code: HS4029

Duration: Year

Prerequisites: Biology Lab Science

Credits: 1.0

This Science course is based on the Next Generation Science Standards (NGSS) and seeks to prepare students to develop a better understanding of three Big Ideas that are important on the global stage:

1. What can we do about Climate Change?
2. How does natural resource distribution affect global issues?
3. How and why do humans learn about the universe?

This course is open to any Grade 11 or Grade 12 student. Much of the course evaluation is based on collaborative project work, with presentations made to audiences of many different ages across the SAS community.

IB Environmental Systems & Society SL Y1-Y2 + HL Y1

Course Codes: HS4115 (Y1), HS4125 (Y2)

Duration: Two years

Prerequisites: Biology Lab Science

Credits: 1.0 Science credit (Y1), 1.0 Social Studies credit (Y2)

The prime intent of this course is to provide students with a coherent perspective of the interrelationships between environmental systems and societies; one that enables them to adopt an informed, personal response to the wide range of pressing environmental issues that they will inevitably come to face. Students' attention can be constantly drawn to their own relationship with their environment and the significance of choices and decisions that they make in their own lives. It is intended that students develop a sound understanding of the interrelationships between environmental systems and societies, rather than a purely journalistic appreciation of environmental issues. Students will be evaluating the scientific, ethical and socio-political aspects of issues. As a trans-disciplinary course, IB Environmental Systems and Society is designed to combine the techniques and knowledge associated with the group 4 (experimental sciences) and with those associated with group 3 (individuals and societies). Choosing to study this course as part of the IB diploma program allows students to satisfy the requirement for both groups 3 & 4 of the hexagon. This then allows students to choose another subject from any hexagon group (including another group 3 or 4 subject). At SAS, a student enrolled in the IB Environmental Systems and Society two year course will be awarded a science credit for year 1 and a social studies credit for year 2.



IB Sports, Exercise, & Health Science SL/HL Y1-Y2

Course Codes: 7030 (Y1), 7031 (Y2)

Prerequisites: Physical & Health Education II

Duration: Two years

Credits: 1.0 Science (Y1), 1.0 Elective (Y2)

This two-year course aims to introduce students to some of the scientific components that make up the study of sport, exercise, and health. This course involves the study of the science that underpins physical performance and provides the opportunity to apply these principles.

As stated in the IB guide, this course incorporates the traditional disciplines of anatomy and physiology, biomechanics, psychology, and nutrition, which are studied in the context of sport, exercise, and health. Students will carry out practical (experimental) investigations in both laboratory and field settings. This will provide an opportunity to acquire the knowledge and understanding necessary to apply scientific principles and critically analyze human performance. Where relevant, the course will address issues of internationalism and ethics by considering sport, exercise, and health relative to the individual and in a global context.

Coursework: Students will conduct a scientific experiment on a topic of their choosing related to the field of Sport Science. Students will collect and analyze data before drawing conclusions and evaluating their work. Coursework is worth 24% of the overall mark.

Higher Level: Students at HL are required to study additional higher level (AHL) material, conduct extra hours in the lab, and cover further HL topics. The distinction between SL and HL is one of breadth and depth. Additional units include maintaining homeostasis, fueling for performance, friction and collisions, sliding filament theory and overuse injuries.

IB Biology SL/HL Y1-Y2

Course Codes: HS4110 (SL Y1), HS4120 (SL Y2); HS4130 (HL Y1); HS4140 (HL Y2)

Duration: Two years

Prerequisites: Biology Lab Science

Credits: 2.0

IB Biology is a Group 4 experimental science with content organized by theme, including: Unity and diversity, Form and function, Interaction and interdependence, and Continuity and change over the 4 levels of organization (molecules, cells, organisms, ecosystems). Also, 25% of the time in the course will be reserved for practical work and experiment-based projects. All students will complete an independent laboratory investigation as their internal assessment and be involved in a collaborative science project with the other Group 4 sciences of the same year.

IB Chemistry SL/HL Y1-Y2

Course Codes: HS4111 (SL Y1), HS4121 (SL Y2); HS4131 (HL Y1); HS4041 (HL Y2)

Duration: Two years

Prerequisites: Biology Lab Science

Credits: 2.0

IB "The IB DP Chemistry course offers a rigorous and comprehensive exploration of the nature of science. Through a combination of theoretical knowledge and practical applications, students will delve into the intricacies of chemistry. They will learn the significance of modeling and simulations in understanding complex phenomena, while also developing advanced experimental techniques. Approaches to learning will be emphasized, fostering critical thinking and problem-solving skills. Students will explore the relationships between observations, patterns, and trends, and formulate hypotheses based on scientific evidence. They will also develop proficiency in measurement and data analysis, enabling them to analyze and evaluate scientific information. The course will highlight the global impact of science, emphasizing key terminology, concepts, and the ability to critically analyze and evaluate scientific theories.

HL Course Content:

The HL coursework of the IB DP Chemistry course expands upon the fundamental understanding gained in the SL course. With additional mathematical skills and in-depth exploration of conceptually demanding topics, HL students develop a solid foundation for university-level study. The 240 teaching hours provide ample time to cover the broader and deeper content, fostering the ability to make connections across diverse areas of the syllabus and expanding their networked knowledge. The HL course offers students an opportunity to further enhance their chemistry expertise and prepare for advanced academic pursuits."

IB Physics SL/HL Y1-Y2

Course Codes: HS4112 (SL Y1), HS4122 (SL Y2); HS4132 (HL Y1); HS4142 (HL Y2)

Duration: Two years

Prerequisites: Biology Lab Science; IM3 or higher level Math course

Credits: 2.0

IB Physics is a two year course designed for students who want to be introduced to a wide variety of physics areas. The course is organized into five themes, i) Space, motion, and time, ii) The nature of matter, iii) Wave Behavior, iv) Fields, v) Nuclear and Quantum Physics. Experimental work is a large component of the course and there are also engineering based projects. The HL option includes additional content on higher level topics in physics such as electromagnetic induction, quantum physics, and relativity. IB Physics is recommended for those that would like to pursue any engineering or physics-based course at university. A solid understanding of algebraic manipulation is recommended to be successful in the course.

AP Biology

Course Code: HS4200

Duration: Year

Prerequisites: Biology Lab Science

Credits: 1.0

The AP Biology course is designed to help students develop advanced inquiry and reasoning skills, such as designing a plan for collecting data, analyzing data, applying mathematical routines, using models, justifying claims and connecting concepts in and across domains. The conceptual study of the course is based on the four following big ideas: 1) The process of evolution drives the diversity and unity of life; 2) Biological systems utilize free energy and molecular building blocks to grow, to reproduce, and to maintain dynamic homeostasis; 3) Living systems store, retrieve, transmit, and respond to information essential to life processes; 4) Biological systems interact, and these systems and their interactions possess complex properties. This AP Biology course is equivalent to a two-semester college introductory biology course.

AP Chemistry

Course Code: HS4201

Duration: Year

Prerequisites: Biology Lab Science

Credits: 1.0

The AP Chemistry course is designed to be the equivalent of the general first year university chemistry course taken by college freshmen. A range of topics are covered, spanning physical and analytical chemistry. The major units in the course are centered around the 'Big Ideas' from the College Board. The units include:

- Introduction/Scientific Method
- Atomic Structure
- Periodicity
- Chemical Bonding and Properties
- Stoichiometry
- Thermochemistry
- Gases, Liquids, Solids
- Equilibrium
- Acids and Bases
- Kinetics
- Electrochemistry

Students will complete a range of college level laboratory experiments, a number of which will be inquiry based. Students are expected to take tangible responsibility for their learning with a large amount of work required outside of class in order to make the most of the time in class.

**AP Physics 1**

Course Code: HS4210

Duration: Year

Prerequisites: Biology Lab Science; IM3 or higher level Math course

Credits: 1.0

This algebra based AP Physics program provides a systematic study of the principles of physics and emphasizes the development of critical thinking and problem-solving ability. The course covers Newtonian mechanics including rotational dynamics and angular momentum, work, energy and power, fluids. It is assumed that the student is familiar with algebra and basic trigonometry. This course offers the essential foundation in physics, preparing students for science related courses.

AP Physics C: Mechanics

Course Code: HS4208

Duration: Year

Prerequisites: Biology Lab Science; IM3+ or Advanced Pre Calculus Math Course

Credits: 1.0

This calculus based physics course is a recommended option for any students considering engineering or physics based degrees at university. The course covers seven units across the wide area of mechanics, the units are:

- Kinematics
- Newton's Laws of Motion
- Work, Energy, and Power
- Systems of particles and Linear momentum
- Rotation
- Oscillations
- Gravitation

The course will involve learning how to apply calculus to model more real life physics situations and a large component of experimental work/project based assessment. Completing a calculus based math course previously or concurrently is not required but a strong mathematical background such as pre-calculus is highly recommended. This course will teach the calculus required for Physics C Mechanics within it. This course is required to register for AP Physics C: Electricity and Magnetism.

AP Physics C: Electricity & Magnetism

Course Code: HS4209

Duration: Year

Prerequisites: Biology Lab Science; IM3+ or Advanced Pre Calculus Math Course; Completion of AP Physics C Mechanics in advance or concurrently taking the course.

Credits: 1.0

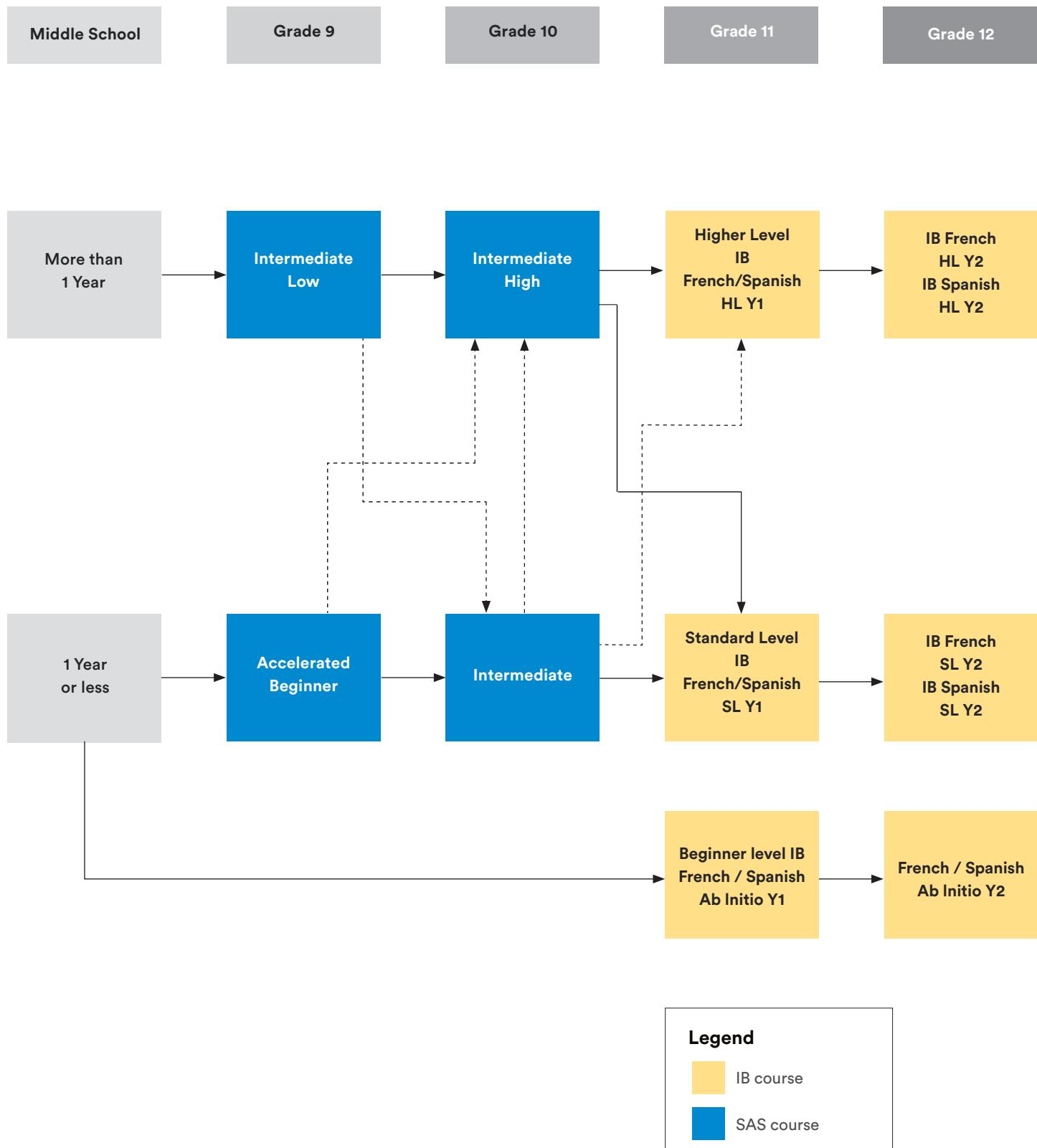
This calculus based physics course is a good option for any students considering engineering or physics based degrees at university, but is less of a requirement than the Mechanics course. The course covers five units across the wide area of electricity and magnetism, the units are:

- Electrostatics
- Conductors, Capacitors, and Dielectrics
- Magnetic Fields
- Electromagnetism

The course will involve learning how to apply calculus to model more real life physics situations and a large component of experimental work/project based assessment. Completing a calculus based math course previously or concurrently is not required but a strong mathematical background such as pre-calculus is highly recommended. Completion of AP Physics C Mechanics or taking the two courses concurrently is a pre-requisite for this course.

GLOBAL LANGUAGES COURSES (FRENCH AND SPANISH)

Global Languages Department Flow Chart



Ab Initio is a two-year program for students with limited background in the language of study.

Accelerated Beginner French

Course Code: HS 5054

Duration: One Year

Prerequisites: None

Credits: 1.0

This course is for Grade 9 students who are complete or almost complete beginners, with no more than one year of experience studying the language. It is a fast-paced and demanding course covering 3 semesters in two. Students will be introduced to vocabulary, grammar, and culture across a wide range of common topics designed to quickly build their communication skills. By the end of the course, students will be able to hold a 5-minute conversation and write a 100–150-word text. Students will also be able to understand audio and written texts on common topics. Students will also be able to communicate in the past, present, and future.

Intermediate Low French

Course Code: HS 5056

Duration: One Year

Prerequisites: More than one year of studies in Middle School, or teacher recommendation

Credits: 1.0

This course is for Grade 9 students who have more than one year of experience studying the language in Middle School. The course consolidates and reviews the skills, grammar, and vocabulary learned up to this point in a range of familiar and unfamiliar contexts. This course introduces new tenses and more complex grammatical patterns. It is also a continued study of Francophone cultures. By the end of the year, students will be capable communicators, who are able to converse in French on a variety of topics, take part in simple discussions, and write a minimum of 150 words for different purposes. Students will be assessed regularly with quizzes and tests, projects, reading and listening comprehension tasks, written compositions, oral presentations, and conversations. Students completing this course would usually progress to Intermediate High French.

Intermediate French

Course Code: HS5055

Duration: One Year

Prerequisites: Beginner French Course or teacher recommendation

Credits: 1.0

This course is primarily for Grade 10 students who have studied the Beginner French Course in Grade 9. It is a fast-paced and demanding course covering 3 semesters in two. Students will be introduced to vocabulary, grammar, and culture across a wider range of common topics designed to quickly build their communication skills in preparation for further study at the IB level at Standard or Higher Level.

By the end of the course, students will be able to hold a 7-minute conversation and write a minimum of 150 words. Students will also be able to understand longer and more complex audio and written texts. Students will be able to use several past and future tenses, together with the present tense.

Intermediate High French

Course Code: HS 5057

Duration: One Year

Prerequisites: Intermediate Low French Course.

Credits: 1.0

This course is primarily for Grade 10 students who have studied the Intermediate Low French Course in Grade 9. This high intermediate course aims to develop students' autonomy by extending the skills, grammar and vocabulary learned previously. It extends intercultural competency through an exploration of Francophone cultures. The course uses a range of authentic resources (texts, interactive websites, songs, movies, etc.) to emphasize learning through various approaches and to give students opportunities to express themselves in an increasingly comfortable manner at a high intermediate level. By the end of the year, students will aim to be effective communicators, who are able to understand and communicate in French on a variety of topics and for a variety of purposes. Students will be assessed regularly with quizzes and tests, reading, and listening comprehension tasks, as well as written and interactive oral productions. Students will begin to explore more abstract topics and themes in preparation for further study at IB Higher Level.

IB French B SL/HL Y1-Y2

Course Codes: HS5110 (SL Y1); HS5120 (SL Y2); HS5130 (HL Y1); HS5140 (HL Y2)

Duration: Two years

Prerequisites: Intermediate French Course, or Intermediate High French Course or teacher recommendation

Credits: 2.0

French B is a language acquisition course primarily designed for students with solid previous experience in the target language. In the Language B course, students further develop their ability to communicate in French through the study of language, themes, and texts. In doing so, they also develop a conceptual understanding of how languages work and international mindedness through the study of the French language and Francophone cultures. At both B SL/HL levels students learn to communicate in French in the five prescribed themes: Identities, Experience, Human Ingenuity, Social Organization, and Sharing the Planet. The French B course provides students with a basis for further study, work, and leisure using an additional language. Students will be assessed regularly with quizzes and tests, reading, and listening comprehension tasks, as well as individual written and oral productions. At the end of the second year, students will sit the externally assessed IB exams. Higher Level Coursework: The study of two literary works originally written in French.

IB French Ab Initio SL Y1-Y2

Course Codes: HS5151 (Y1), HS5152 (Y2)

Duration: Two years

Credits: 2.0

The Ab Initio program is an intensive language course that covers the equivalent of three years of French over the course of two years and is assessed externally through the IB exam. The program meets the needs of those IB students who have no or very limited previous experience of learning French and are interested in learning a new foreign language as part of their IB Diploma. The aims of this course are to develop students' ability to communicate for familiar and practical needs. It introduces students to Francophone cultures and countries and provides them with a foundation for further study. This course is organized into the five prescribed themes: Identities, Experience, Human ingenuity, Social Organization and Sharing the Planet. Students will be assessed regularly with quizzes and tests, reading, and listening comprehension tasks, as well as individual written and oral productions.

Accelerated Beginner Spanish

Course Code: HS5058

Duration: One Year

Prerequisites: None

Credits: 1.0

This course is for Grade 9 students who are complete or almost complete beginners, with no more than one year of experience studying the language. It is a fast-paced and demanding course covering 3 semesters in two. Students will be introduced to vocabulary, grammar, and culture across a wide range of common topics designed to quickly build their communication skills. By the end of the course, students will be able to hold a 5-minute conversation and write a 100–150-word text. Students will also be able to understand audio and written texts on common topics. Students will also be able to communicate in the past, present, and future.

Intermediate Low Spanish

Course Code: HS 5060

Duration: One Year

Prerequisites: More than one year of studies in Middle School, or teacher recommendation

Credits: 1.0

This course is for Grade 9 students who have more than one year of experience studying the language in Middle School. The course consolidates and reviews the skills, grammar, and vocabulary learned up to this point in a range of familiar and unfamiliar contexts. This course introduces new tenses and more complex grammatical patterns. It is also a continued study of Hispanic cultures. By the end of the year, students will be capable communicators, who are able to converse in Spanish on a variety of topics, take part in simple discussions, and write a minimum of 150 words for different purposes. Students will be assessed regularly with quizzes and tests, projects, reading and listening comprehension tasks, written compositions, oral presentations, and conversations. Students completing this course would usually progress to Intermediate High Spanish.

Intermediate Spanish

Course Codes: HS5059

Duration: One Year

Prerequisites: Beginner Spanish Course, or teacher recommendation Credits: 1.0

This course is primarily for Grade 10 students who have studied the Beginner Spanish Course in Grade 9. It is a fast-paced and demanding course covering 3 semesters in two. Students will be introduced to vocabulary, grammar, and culture across a wider range of common topics designed to quickly build their communication skills in preparation for further study at IB Standard or Higher Level.

By the end of the course, students will be able to hold a 7-minute conversation and write a minimum of 150 words. Students will also be able to understand longer and more complex audio and written texts. Students will be able to use several past and future tenses, together with the present tense.

Intermediate High Spanish

Course Code: HS5061

Duration: One Year

Prerequisites: Intermediate Low Spanish Course, or upon teacher recommendation, Beginner Spanish Course

Credits: 1.0

This course is primarily for Grade 10 students who have studied the Intermediate Low Spanish Course in Grade 9. This high intermediate course aims to develop students' autonomy by extending the skills, grammar and vocabulary learned previously. It extends intercultural competency through an exploration of Hispanic cultures. The course uses a range of authentic resources (texts, interactive websites, songs, movies, etc.) to emphasize learning through various approaches and to give students opportunities to express themselves in an increasingly comfortable manner at a high intermediate level. By the end of the year, students will aim to be effective communicators, who are able to understand and communicate in Spanish on a variety of topics and for a variety of purposes. Students will be assessed regularly with quizzes and tests, reading, and listening comprehension tasks, as well as written and interactive oral productions. Students will begin to explore more abstract topics and themes in preparation for further study at IB High Level.

IB Spanish Ab Initio SL Y1-Y2

Course Codes: HS5155 (Y1), HS5156 (Y2)

Duration: Two years

Prerequisites: None – No more than one year of experience studying the language

Credits: 2.0

The Ab Initio program is an intensive language course that covers the equivalent of three years of Spanish over the course of two years and is then assessed externally through the IB exam. It is meant for students who have no previous experience of learning the language. The program meets the needs of those 18 students who have had little or no opportunity for foreign language study in their earlier education and are interested in learning a new foreign language as part of their IB Diploma. The aims of this course are to develop the student's ability to communicate, in speech and in writing, in order to enable them to deal adequately with familiar and practical needs; introduce students to the culture of the countries where the language is spoken through the study of the target language; provide students with a foundation for further study of the target language; provide enjoyment and intellectual stimulation; and encourage positive attitudes towards the learning of other languages and their speakers and countries. This course is organized in five prescribed themes: Identities, Experience, Human ingenuity, Social Organization and Sharing the planet.

IB Spanish B SL/HL Y1-Y2

Course Codes: HS5111 (SL Y1); HS5121 (SL Y2); HS5131 (HL Y1); HS5141 (HL Y2)

Duration: Two years

Prerequisites: Intermediate Spanish Course, Intermediate High Spanish Course, or teacher recommendation

Credits: 2.0

Spanish B is a language acquisition course designed for students with some previous experience of the target language. In the language B course, students further develop their ability to communicate in Spanish through the study of language, themes, and texts. In doing so, they also develop conceptual understandings of how language works and international mindedness through the study of the Spanish language and Hispanic cultures. At both levels of language B (SL and HL), students learn to communicate in Spanish in familiar and unfamiliar contexts. They describe situations, narrate events, explain problems and support their personal opinions for a variety of purposes and on a variety of topics related to the five prescribed themes: Identities, Experience, Human ingenuity, Social Organization and Sharing the planet. Spanish B provides students with a basis for further study, work, and leisure using an additional language. Students will be assessed regularly with quizzes and tests, reading, and listening comprehension tasks, as well as individual written and oral productions. At the end of the second year, students will sit the externally assessed IB exams. Higher Level Coursework: The study of two literary works originally written in Spanish.

IB Self-Taught Language A1 SL Y1-Y2

Course Codes: HS5102 (Y1); HS5103 (Y2) Duration: Two years

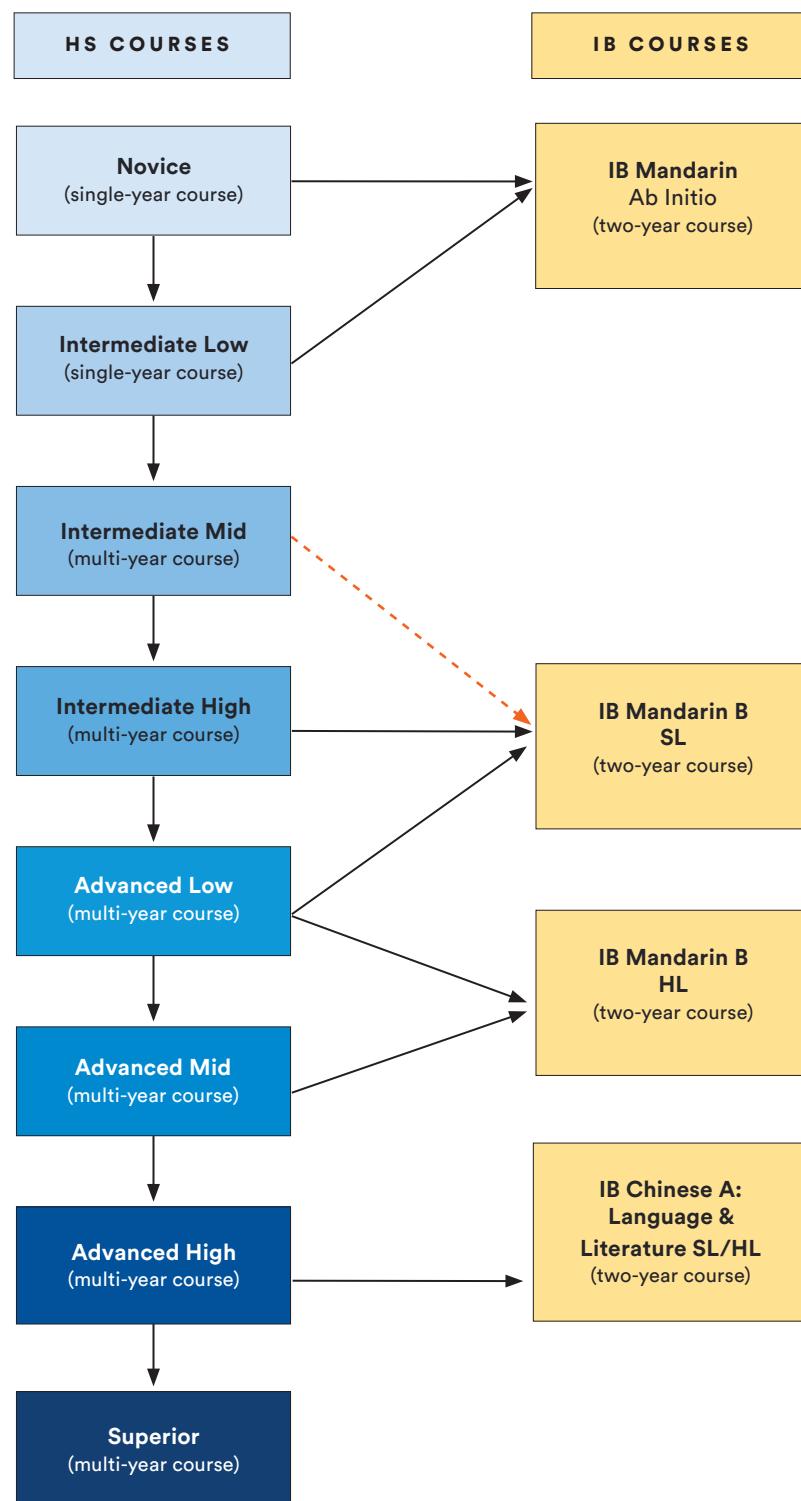
Prerequisites: Fluency in native language Credits: 2.0

This is designed as an independent study of literature for students in their native or best academic language, excluding English. Students examine 11 works of literature, five of which must be world literature in translation. The course is designed for students who desire enrichment in the study of literature in a language other than English. The emphasis of the course will be on independent literary analysis and the writing of clear, balanced, well-organized prose in the student's native language. Written and spoken communication will be assessed through internal (school) and external (IBO) assessment. All students enrolled in an IB subject must sit the external exam at the end of year 2.



CHINESE LANGUAGE COURSES

Chinese Department Flow Chart



Note: Full IB Diploma students will be recommended for placement into Mandarin B or Chinese A depending on their proficiency level. Students may then choose between taking their recommended course at the standard or higher level.

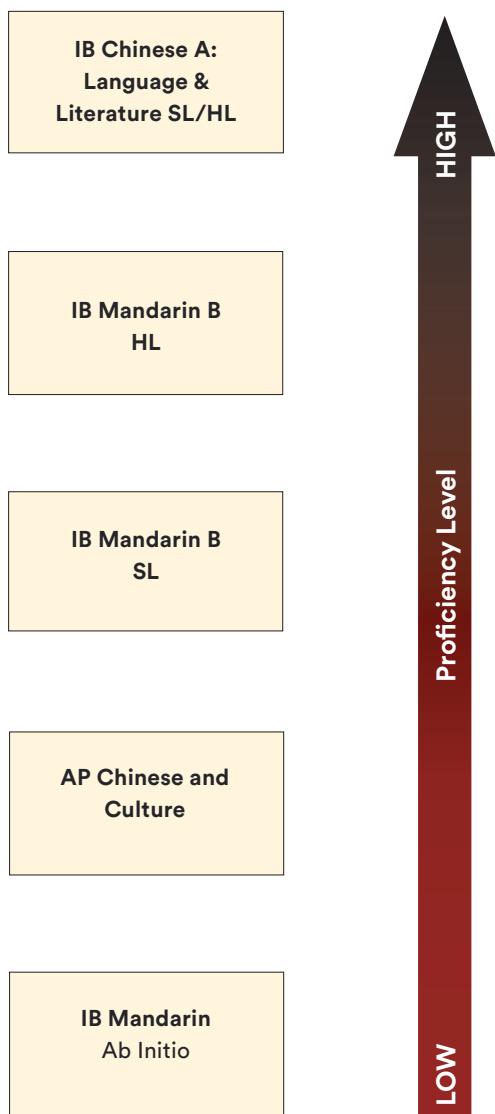
May require support and/or summer work

Legend

IB course

SAS course

Chinese Language Proficiency Level for External Assessments



There is no formal Advanced Placement (AP) course being offered in the SAS Chinese program. We have limited capacity for the exam through Student Independent Study. Students who have attained Intermediate High level are the priority candidates to take the exams, as some AP material and similar themes are covered in that class.

Students in Advanced Low and Intermediate Mid may also take the AP Chinese exam if there is room and upon recommendation from their Chinese teacher.

The AP Chinese exam is not appropriate for students whose Chinese level is already higher than that of the exam (Advanced Mid or above).

The SAS Chinese Program

The goal of the Chinese program is to enable students to advocate for self, others and ideas in Chinese in a way that fosters collaboration, enhances global citizenship, challenges established thought, and leads to creative ideas. The SAS Chinese program marks progress toward achievement of this goal through ACTFL standards.

Oral Language

The ability to communicate in oral language is measured through assessments rooted in the Oral Proficiency Interview (OPI) by ACTFL. The OPI measures the language proficiency needed to ensure work readiness for differing types of employment. The OPI assessment measures from Novice (emerging levels of language for a young child or second language learner) to Superior (proficiency that provides a linguistic base for success in careers such as that of a judge, philosopher, or diplomat). The SAS measure of oral language proficiency ranges from Novice to Advanced High. Advanced High includes most aspects of the Superior range skills of the OPI.

Literacy

Chinese curriculum offers texts, assessments as well as support for reading levels ranging from basic text of foundation literacy to advanced high level courses as well as IB language A courses. Writing samples are analyzed by teachers. Writing levels range from entrance to the Novice course, in which students will begin to understand how characters are formed to the Advanced High course in which students narrate and persuade with organized, precise and artistically written language.

Placement

Students are placed in courses that best represent their skill set and next steps for learning in accordance with standards. The High School program at SAS offers seven levels of Chinese. The SAS course names reflect the ACTFL exit standard of the course.

- Novice
- Intermediate Low
- Intermediate Mid
- Intermediate High
- Advanced Low
- Advanced Mid
- Advanced High
- Superior

Language Requirements:

Although SAS requires two global languages credits for graduation, most colleges and universities recommend four years of global languages.

Novice Chinese

Course Code: HS5024

Duration: Single-year Course

Prerequisites: None

Credits: 1.0

This one-year course is designed to give students a solid base in the foundational aspects of Chinese conversational language and literacy in a character-based language. Successful completion of this course means that students will be able to demonstrate mastery of the following skills:

Oral language: Novice High oral proficiency according to ACTFL standards. This means that a student can answer a variety of familiar questions about topics related to daily life using complete sentences most of the time. When prompted, he/she can ask a variety of familiar questions.

Reading: Students can use reading strategies such as reference to images, contextual clues, radicals and familiar characters to figure out the meaning of basic text.

Writing: Students can recognize radicals and use proper stroke order to write characters. Students can combine basic characters to form words. Students can independently write practiced patterns of sentences with familiar vocabulary.

Intermediate Low Chinese

Course Code: HS5025

Duration: Single-year Course

Prerequisites: Successful demonstration of the skills of the Novice course

Credits: 1.0

This one-year course is designed to enable students to expand upon their already established foundation of the basic structures of spoken and written Chinese. Successful completion of this course means that students will be able to demonstrate mastery of the following skills:

Oral language: Intermediate Low oral proficiency according to ACTFL standards. This means that a student can answer a wide variety of familiar and original questions about his/ her daily life. He/ she answers prompts consistently in complete sentences. He/ she is able to ask a variety of questions and talk about topics related to daily life in a series of sentences.

Reading: Students can use reading strategies such as reference to images, contextual clues, radicals and familiar characters to independently read text with varied sentence length.

Writing: Students can independently write sentences on familiar topics. Students have a vocabulary base of approximately 150 commonly used characters.

Intermediate Mid Chinese

Course Code: HS5026

Duration: 1-2 year Course

Prerequisites: Successful demonstration of the skills of the Intermediate Low course

Credits: 1.0

This 1-2 year course is designed to enable students to independently converse in Chinese in order to solve basic problems, engage in extended, friendly conversations, and read and write original text within familiar contexts. Successful completion of this course means that students will be able to demonstrate mastery of the following skills:

Oral language: Intermediate Mid oral proficiency according to ACTFL standards. This means that a student can ask and answer a wide variety of original questions about his/her daily life. He/ she speaks consistently in connected sentences that show originality of thought and the ability to solve authentic problems.

Reading: Students can independently read a variety of books or text containing multiple sentences with the support of images and contextual clues.

Writing: Students can independently write with well-connected sentences on familiar topics that show variation of character usage.

Intermediate High Chinese

Course Code: HS3033

Duration: 1-2 year Course

Prerequisites: Successful demonstration of the skills of the Intermediate Mid course

Credits: 1.0

This 1-2 year course is designed to enable students to independently converse in Chinese in order to solve problems with complications, engage in extended conversations on a variety of topics, and read and write original text that demonstrate access to an expanding cultural context and set of ideas. Successful completion of this course means that students will be able to demonstrate mastery of the following skills:

Oral language: Intermediate High oral proficiency according to ACTFL standards. This means that a student can maintain a conversation on a variety of topics of daily life and make connections to topics beyond self. He/ she is able to compare and contrast ideas using paragraph length discourse adding a variety of details.

Reading: Students can independently read a variety of books and text containing prolonged paragraphs with limited support of images and contextual clues.

Writing: Students can independently write in simple paragraphs on a variety of topics with supporting detail that shows variation of sentence structure, logical format, and emerging detail.

Advanced Low Chinese

Course Code: HS5031

Duration: 1-2 year Course

Prerequisites: Successful demonstration of the skills of the Intermediate High course

Credits: 1.0

The Advanced Low Chinese course is designed to enable students to achieve conversational and literacy proficiency at an academic level over a duration of 1-2 years. Successful completion of this course signifies that students will have mastered the following skills:

Oral language: Students will demonstrate Advanced Low oral proficiency as outlined by Common Core standards. This includes the ability to engage effectively in various collaborative discussions—whether one-on-one, in groups, or in teacher-led settings—with diverse partners on Advanced Low topics, texts, and issues. Students will build on others' ideas while clearly expressing their own.

Reading: Students will be capable of reading and comprehending literary nonfiction and literature, including stories and poems, proficiently within the Common Core Grade 6 and 7 text complexity band.

Writing: Students will be able to write routinely over extended time frames (allowing for research, reflection, and revision) as well as shorter time frames (within a single sitting or over one to two days) for a variety of discipline-specific tasks, purposes, and audiences at the Advanced Low level. Advanced Low students in Grade 10 may have access to IBDP Mandarin B Standard Level (SL) or Higher Level (HL).

Advanced Mid Chinese

Course Code: HS5032

Duration: 1-2 year Course

Prerequisites: Successful demonstration of the skills of the Advanced Low course

Credits: 1.0

The Advanced Mid Chinese course is designed to enable students to discuss and engage with a wide variety of academic and literary texts over a 1-2 year period. Successful completion of this course signifies that students will have mastered the following skills:

Oral language: Students will demonstrate Advanced Mid oral proficiency according to Common Core standards. This includes the ability to effectively engage in collaborative discussions—whether one-on-one, in groups, or in teacher-led settings—with diverse partners on Advanced Mid topics, texts, and issues. Students will build on others' ideas while clearly articulating their own.

Reading: Students will be capable of reading and comprehending literary nonfiction and literature, including stories and poems, proficiently within the Common Core Grade 7 and 8 text complexity band.

Writing: Students will be capable of writing routinely over extended time frames (allowing for research, reflection, and revision) and shorter time frames (within a single sitting or over one to two days) for a variety of discipline-specific tasks, purposes, and audiences at the Advanced Mid level. Advanced Mid students in Grade 10 may have access to IBDP Mandarin B Higher Level (HL).

Advanced High Chinese

Course Code: HS3034

Duration: 1-2 year Course

Prerequisites: Successful demonstration of the skills of the Advanced Mid course

Credits: 1.0

The Advanced High Chinese course is designed to enable students to engage in literary analysis across a variety of genres over a duration of 1-2 years. Successful completion of this course signifies that students will have mastered the following skills:

Oral language: Students will demonstrate Advanced High oral proficiency according to Common Core standards. This includes the ability to initiate and participate effectively in a range of collaborative discussions—whether one-on-one, in groups, or in teacher-led settings—with diverse partners on Advanced High topics, texts, and issues. Students will build on others' ideas and express their own clearly and persuasively.

Reading: Students will be capable of reading and comprehending literary nonfiction and literature, including stories, drama, and poems, within the Common Core grade 8, 9, and 10 text complexity bands proficiently.

Writing: Students will be able to write routinely over extended time frames (allowing for research, reflection, and revision) and shorter time frames (within a single sitting or over one to two days) for a range of tasks, purposes, and audiences at the Advanced High level. Advanced High students in Grade 10 may have access to IBDP Chinese A Language and Literature.

IB Mandarin Ab Initio SL Y1-Y2

Course Codes: HS5159 (Y1), HS5150 (Y2)

Duration: Two-year Course

Prerequisites: Students with no prior experience with Chinese, or else with skills within the range of the SAS Novice and Intermediate Low courses are recommended for IB Ab Initio.

Credits: 2.0

This is a two-year course for students to achieve communicative competence in a variety of everyday situations. The objective of the course is clear and effective communication through the understanding and usage of a range of essential spoken and written forms of the language. The main focus of the course is on the acquisition of language for purposes and situations in everyday social interaction. While speaking and listening skills are emphasized, reading and writing skills are required as well. Aspects of the everyday life and culture of the Chinese speaking communities will be explored. The students are required to sit the both internal and external exam at the end of year 2.

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IB Mandarin B SL/HL Y1-Y2

Course Codes: HS5113 (SL Y1), HS5123 (SL Y2), HS5133 (HL Y1), HS5143 (HL Y2)

Duration: Two-year Course

Prerequisites: Students with skills within the range of the SAS Intermediate High and Advanced Low courses are recommended for IB Language B SL. Students with skills within the range of the SAS Advanced Low and Advanced Mid courses are recommended for IB Mandarin B HL.

Credits: 2.0

IB Mandarin B SL/HL course is a language acquisition course designed for students with some previous experience of the target language. In the language B course, students further develop their ability to communicate in Mandarin through the study of language, themes and texts. In doing so, they also develop conceptual understandings of how language works and international-mindedness through the study of the Mandarin language and Chinese cultures. The emphasis of the course will be on the development of the four primary language skills of listening, speaking, reading, and writing through a variety of texts, topics, and materials.

In this course, students learn to communicate in Mandarin in familiar and unfamiliar contexts. They describe situations, narrate events, explain problems and support their personal opinions for a variety of purposes and on a variety of topics related to the five prescribed themes: Identities, Experience, Human ingenuity, Social organization and Sharing the planet. IB students are required to sit the external exam at the end of year 2.

Higher Level Coursework: The study of two literary works originally written in Mandarin. The distinction between language B SL and HL can also be seen in the level of competency the student is expected to develop in the receptive, productive and interactive skills.

IB Chinese A: Language & Literature SL/HL Y1-Y2

Course Codes: HS5114 (SL Y1), HS5124 (SL Y2); HS5134 (HL Y1); HS5144 (HL Y2)

Duration: Two-year Course

Prerequisites: Students with skills within the range of the SAS Advanced High course are recommended for IB Chinese A: Language & Literature

Credits: 2.0

IB Chinese A: Language and Literature SL/HL is a two-year course that examines both traditional and nontraditional texts. The course will include, but is not limited to:

- A study of rhetoric and the impact of language use beyond that of literary analysis.
- An exploration of the connections between language and power, language and culture, and language and mass communication.
- Recognition of the importance of a writer's world and audience.
- Recognition of the impact of a reader's context on (multiple) readings of a text.
- Preparation for university-level writing for a variety of majors.

Since this course will study literary and non-literary texts, it best suits students who love literature and are interested in thinking about language in new ways.

Higher Level Coursework: Two of the IBO assessment tasks for HL are more demanding than those of SL. In addition to studying additional topics and reading additional texts, HL students are required to submit one additional written task for the external IBO assessment. The external assessment criteria require that HL students show a deeper understanding of content and demonstrate the ability to write a comparative analysis of texts.

Chinese Superior Y1/Y2

Course Codes: HS5147 (Y1), HS5157 (Y2)

Duration: 1-2 years

Prerequisites: Successful demonstration of the skills of the Advanced High course

Credits: 1.0

Superior Chinese and IB Chinese A Language and Literature share the same standards. The Superior Chinese course is designed to enable students to engage in literary analysis across a variety of genres over a duration of 1-2 years. Successful completion of this course signifies that students will have mastered the following skills:

Oral language: Students will demonstrate Superior oral proficiency according to Common Core standards. This includes the ability to initiate and participate effectively in a range of collaborative discussions—whether one-on-one, in groups, or in teacher-led settings—with diverse partners on Superior topics, texts, and issues. Students will build on others' ideas and express their own clearly and persuasively.

Reading: Students will be capable of reading and comprehending literary nonfiction and literature, including stories, drama, and poems, within the Common Core Grade 11 and 12 text complexity bands proficiently.

Writing: Students will be able to write routinely over extended time frames (allowing for research, reflection, and revision) and shorter time frames (within a single sitting or over one to two days) for a range of tasks, purposes, and audiences at the Common Core Grade 11 and 12 levels.



VISUAL ARTS COURSES**Visual Arts Department Flow Chart**

Grade 9 students may take:

Art Lab**Intro to Digital Filmmaking****Design Theory**

Grade 10 students may chose any of the courses below based upon meeting prerequisites.

Art Lab**Design Theory****Intermediate Art Studio****Intro to Digital Filmmaking**

Grade 11 and 12 students may choose any of the courses below based on meeting prerequisites:

Art Lab**Design Theory****IB Film SL/HL**
(two-year course)**Intermediate Art Studio****Advanced Art Studio****IB Visual Art SL/HL**
(two-year course)**Legend** IB course SAS course

Art Lab

Course Code: HS6205

Duration: Year

Prerequisites: None

Credits: 1.0

This is not your typical introductory art course. Art Lab is a place of experimentation and creativity. It is a place where we learn to see the world in a new way, try new things and hone our craft into meaningful artwork. In the lab, we'll paint with a brush, but we'll also paint with a stylus. We'll sculpt, build and cut with our hands, but we'll also use 3D printers, laser cutters, and the most important tool - your imagination. Each unit will allow students to learn how to generate and develop ideas and artwork, increase their knowledge and understanding of movements and artists, and learn how to analyze, respond and become inspired. Sketchbooks, projects and class critiques will support the development of critical thinking and creativity skills. This course is a recommended prerequisite for all future art courses. Art Lab: Imagine. Craft. Build.

**Intro to Digital Filmmaking**

Course Code: HS8001

Duration: One Semester

Prerequisites: None

Credits: 1.0

Dive into the world of digital filmmaking in this engaging course designed for 9th and 10th graders. This introductory program is perfect for students eager to explore the fundamentals of film production. Students will learn about visual storytelling through cinematography, sound design, and editing, using industry-standard equipment and software. Through hands-on projects, participants will collaborate to create short films, gaining practical experience in all aspects of the filmmaking process—from concept development to post-production. By analyzing influential films and exploring various genres, students will cultivate their creative voices and develop critical thinking skills. It doesn't matter if you don't want to be a filmmaker (although it's the perfect course if you do!) but the skills you learn can be applied to so many university courses and future careers, especially in this digital era with ubiquitous video media.

Intermediate Art Studio

Course Code: HS6207

Duration: Year

Prerequisites: Art Lab

Credits: 1.0

This course is intended for students who are interested in deepening their exploration of different art techniques, media and ideas. In order to help students become more thoughtful and skilled artists, projects will emphasize both technical skill development as well as conceptual problem solving skills. The year is comprised of both teacher and student directed assignments. Students will explore a variety of 2D and 3D media and techniques. Students will use sketchbooks to develop their visual ideas, to research the context of art-making, both historical and contemporary, and for personal reflection.

Advanced Art Studio

Course Code: HS6208

Duration: Year

Prerequisites: One year of an Art course

Credits: 1.0

Advanced Art Studio is intended for students who are interested in pursuing their artwork independently, without the formality of an external exam. This course is both theme-based and student lead. Over the course of the year, teacher initiated themes with open media choice progress towards independent student lead projects. Students will utilize sketchbooks to help in the development of their ideas. The format of Advanced Art Studio will allow for the creation of a personal portfolio of artwork in a wide variety of media, which may be used to apply to university or just for fun! This course will help students develop a personal sense of who they are as an artist. This course may be taken for multiple years.

IB Visual Art SL/HL Y1-Y2

Course Codes: HS6110 (SL-Y1); HS6120 (SL-Y2); HS6130 (HL-Y1); HS6140 (HL-Y2)

Duration: Two years

Prerequisites: None

Credits: 2.0

The IB Visual Art course fosters creativity, communication, critical thinking and collaboration. Students learn that by making art, they are empowered to engage, transform and emerge as individuals and members of a community.

The course is organized in three core areas—create, connect and communicate—which are integrated in art-making as inquiry.

The classroom is to transform into a visual arts studio, a collaborative, inclusive, creative and conceptually rich space where students develop their art.

IB Film SL/HL Y1-Y2

Course Codes: HS8165 (SL Y1); HS8175 (SL Y2); HS8185 (HL Y1); HS8195 (HL Y2)

Duration: Two years

Prerequisites: None

Credits: 2.0

Film literacy is a critical skill for the 21st century in which most of the media that we consume, and produce is delivered in this fashion. Throughout the two-year IB Film HL course, we will analyze how meaning is created and communicated in film language. We will study popular films, independent films, foreign films, and classic films. After we deconstruct these films down to their basic structures, we'll use those building blocks to make our own powerful films that tell engaging stories. In SL and HL, we will complete a close textual analysis in year one and will be working towards two other assessments in year two. These include a comparative study of two films in a topic of your choosing and a production portfolio of your work in different film roles.

HL students are expected to complete a fourth assessment, which is a collaborative film project.

**Design Theory**

Course Codes: HS8506

Duration: Year

Prerequisites: None

Credits: 1.0

Unleash your creativity in the Design Theory, an exciting studio-based course where imagination meets real-world challenges! Dive into the vibrant fields of graphic, product, and fashion design as you master the innovative design thinking process. You will tackle authentic design challenges, brainstorming, and presenting creative solutions that turn your wild ideas into reality. As you create stunning prototypes, you'll build a design portfolio that showcases your talents and growth. Embark on a thrilling journey where you can create and make your mark on the world of design.



PERFORMING ARTS COURSES**Performing Arts Department Flow Chart**

Grade 9 students may choose the course below based on meeting prerequisites:

Audio Production

Concert Choir 1

Concert Band 1

Orchestra

Guitar 1

Theatre Production
(Semester Course)Theatre Performance
(Semester Course)

Music Production 1

Grade 10,11 and 12 students may choose any of the courses below based on meeting prerequisites:

Theatre Production (Semester Course)

Concert Choir 1

Orchestra

Theatre Performance (Semester Course)

Concert Choir 2

Guitar 1

Dance 1-2

Concert Band 1

Guitar 2

Music Production 1

Concert Band 2

Music Production 2

Grade 11 and 12 students may choose any of the courses above based on meeting prerequisites plus the two IB courses below.

IB Theatre SL/HL
(two-year course)IB Music SL/HL
(two-year course)IB Dance SL/HL
(two-year course)**Legend**
 IB course

 SAS course

Concert Choir 1

Course Code: HS6020

Duration: Year

Prerequisites: None. Concert Choir 1 can be taken more than once.

Credits: 1.0

Concert choir is a performing group open to any student who can demonstrate an ability to match pitch and stay on a part. Choral literature of three to four parts, from the Renaissance to the present, is rehearsed and performed. Students will develop skills in vocal production, note and rhythm reading, listening, and conducting. Pianists are encouraged to audition for the accompanist role.

Concert Choir 2

Course Code: HS6021

Duration: Year

Prerequisites: Teacher placement. Concert Choir 2 can be taken more than once.

Credits: 1.0

Concert choir is a performing group open to any student who can demonstrate an ability to match pitch and stay on a part. Choral literature of three to four parts, from the Renaissance to the present, is rehearsed and performed. Students will develop skills in vocal production, note and rhythm reading, listening, and conducting. Pianists are encouraged to audition for the accompanist role.

Concert Band 1

Course Code: HS6022

Duration: Year

Prerequisites: One year previous experience required. Concert Band 1 can be taken more than once.

Credits: 1.0

Concert Band 1 (Intermediate) is open to all woodwind, brass, and percussion players who have at least one year of experience on their chosen instrument. Specific instrumental technique, ensemble skills, theoretical literacy, and historical awareness will be developed through the performance of a variety of Concert Band literature. This ensemble will build upon previous band experiences.

Concert Band 2

Course Code: HS6023

Duration: Year

Prerequisites: Teacher placement. Concert Band 2 can be taken more than once.

Credits: 1.0

Concert Band 2 is open to experienced woodwind, brass, and percussion players. Specific instrumental technique, ensemble skills, theoretical literacy, and historical awareness will be developed through the performance of a variety of Concert Band literature. This ensemble will build upon the Intermediate Concert Band experience. Please consult with your current teacher before requesting this course.

Orchestra

Course Code: HS6019

Duration: Year

Prerequisites: One year experience or permission of teacher required.

Orchestra 1 can be taken more than once.

Credits: 1.0

Orchestra is an advanced level course offering opportunities to for orchestral string players (violin, viola, cello, and contrabass) to continue their music education. Students will engage in music in multiple ways throughout the year, including performing chamber music, performing in curricular and extracurricular music performances, and learning music theory and music composition. This course can be taken for multiple years and also leads to the IB Music course.

Music Production 1

Course Code: HS7016

Duration: Year

Prerequisites: Teacher discretion

Credits: 1.0

Electronic Music Production 1 is an intermediate course that builds upon foundational skills in digital audio workstations (DAWs) and music composition. Designed for performance based assessment, this course emphasizes the further development of music theory, composition, and digital audio production techniques. Project-based assessments allow students to prove their technical knowledge while researching new concepts in creation. This course also serves as a pathway for students aspiring to continue their music education in the Electronic Music Production 2 or the IB Music course.

Music Production 2

Course Code:

Duration: Year

Prerequisites: Music Production 1

Credits: 1.0

Music Production 2 is an advanced course that builds upon foundational skills in digital audio workstations (DAWs) and music composition. Designed for self-directed, project-based learning, this course emphasizes the further development of music theory, composition, and digital audio production techniques. The main focus is for students to apply their knowledge in open-ended, multimedia projects, promoting creative autonomy and fostering inquiry-based learning. This course serves as a critical pathway for students aspiring to continue their music education at the IB level; however, the skills acquired will be valuable to any class where multimedia creation or use of digital audio is required.

Guitar 1

Course Code: HS6026

Duration: Year

Prerequisites: None. Guitar 1 can be taken more than once.

Credits: 1.0

This is an introductory course dealing with the techniques and styles of guitar playing. Students will have hands-on experience with chords, plucking, and reading notes as well as tablature. Studies will be done through a variety of styles of music, from classical / flamenco to folk and rock and roll.

Guitar 2

Course Code: HS6027

Duration: Year

Prerequisites: Guitar 1 or prior private lessons required for this course.

Guitar 2 can be taken more than once.

Credits: 1.0

This course builds on the techniques learned in the Guitar 1 class. Students will have hands-on experience with more advanced chord progressions, strumming patterns, and note/tablature reading. In addition, students will gain experience in a variety of finger picking styles and open tunings. Studies will be done through a variety of styles of music, from classical/flamenco to folk and rock and roll.

IB Music SL/HL Y1-Y2

Course Codes: HS6111 (SL Y1); HS6121 (SL Y2); HS6131 (HL Y1); HS6141 (HL Y2)

Duration: 2 years

Prerequisites: Prior knowledge of music performance, theory and styles

Credits: 1.0

IB Music is a project-based course that examines music through the holistic tripartite lenses of Perform, Explore and Experiment. Projects use all three components with differing emphases, engaging with music through understanding, making and creating. Students engage with music on personal, local and global levels, and examine four differing aspects of music, examining topics that allow for connections with a variety of musical stimuli. Additionally, Higher Level students will engage in a long-term project to prepare a multimedia presentation based on that long-term project.

Theatre Performance

Course Code: HS6029

Duration: Semester

Prerequisites: None

Credits: 0.5

In this semester-long course, students will immerse themselves in the world of performance in theatre. From character development to stage presence, students will explore the craft of acting through scene work, monologues, and improvisation exercises. Through the study of various acting techniques and styles, students will learn how to embody a character and convey emotion effectively on stage. By the end of the course, students will have developed a strong foundation in acting and performance, as well as a deeper appreciation for the art of theatre.

Theatre Production Design

Course Code: HS6030

Duration: Semester

Prerequisites: None

Credits: 0.5

In this semester-long course, students will explore the world of production design in theatre. From set design to lighting, costumes, and sound, students will learn how to create immersive and visually stunning theatrical experiences. Through hands-on projects and exercises, students will develop their skills in designing and executing elements of a production, including creating mood boards, drafting set designs, selecting costumes, and designing lighting schemes. Students will also have the opportunity to work collaboratively with their peers to bring their designs to life on stage. By the end of the course, students will have a strong understanding of the technical and creative aspects of production design in theatre, as well as the ability to effectively communicate their artistic vision through design elements.

Advanced Dance

Course Code: HS7015

Duration: Year

Prerequisites: Dance 1-2

Credits: 1.0

This course is meant for students who are serious about studying dance physically, academically and creatively. The physical aspect of this course includes regular training in techniques, with a rotating schedule between technique classes, body conditioning, discussions and viewings and choreography labs. Throughout the two semesters, students will be trained in styles of dance that have built-in systems of training. These styles have been chosen for regular training as they will develop flexibility, posture, strength and basic technique that is transferable to all studies of dance.

These four styles of technique will also guide discussion and research topics that will run throughout the course. Technique will be taught on rotation throughout the class, interspersed with lessons on dance history, discussions, special classes and choreography labs. Dance History lessons and discussions will take into account related movements in art, politics and historical events that shaped eras and styles of dance.

Choreography labs will be times when students are systematically guided through the process of creating their own work. From movement research, to concept creation to composition, students will be introduced to the building blocks of creating dance. Students will need significant personal motivation and accountability when creating. All choreography will be created on their own, not in groups and cannot be plagiarised from online or famous works. There will be a number of smaller experiments, ultimately culminating a larger individual production, which will be showcased at the end of semester two. A significant amount of time in semester two in class will be spent working on the final choreography, however students will also need to arrange their own time outside of class to run rehearsals and complete their work.

In choreography labs, students must be open to rethinking their typical working style and dance style preferences in order to follow the steps in learning compositions. A student's personal preferences and styles will naturally appear when the time comes to make purely artistic choices.

Dance 1-2

Course Codes: HS7010 and HS7071

Duration: 0.5 or 1 semester

Prerequisites: None

Credits: 0.5 credit or 1 year: 1 credit (Performing Arts elective or PE credit)

Dance I/II is made for High School students who are interested in dance, and want to explore the artform deeper. The class will be of mixed level and ability. Dancers of all levels are welcome. The course will give students a foundation in dance technical skills, an understanding of key points in dance history and introduce them to current choreographers. Students will have a chance to explore various genres to find what resonates with them. Composition for dance will teach the students the building blocks of creating choreography, leading them to developing their own artistic process. Students will have many chances to collaborate and work as group. Students will be asked to research areas of dance that interest them, in order to discover how they want to be involved in dance at SAS in the future.

IB Theatre SL/HL Y1-Y2

Course Codes: HS6112 (SL Y1); HS6122 (SL Y2); HS6132 (HL Y1); HS6142 (HL Y2)

Duration: Two years

Prerequisites: One year of drama or theatre is recommended.

Credits: 2.0

In the IB Theatre course students will explore theatre practices from Western and non-Western traditions and cultures. Students are encouraged to experience and participate in a wide and varied range of theatre activities, which include devising, performing, designing, directing, observing and reflecting on a range of different performance styles. Throughout the course students will develop academic skills appropriate for the study and understanding of theatre. They will also develop the confidence to explore and experiment – individually and collaboratively – on innovative projects that challenge established notions of theatre. Theatre is an ever-evolving art form, which reflects our ever-changing society. While year one of the course gives students a preparatory experience of the different assessment tasks, year two gives them the opportunity to choose more independently their focus for these tasks. By the completion of the course students will have created a collaborative theatre project, a director's notebook, and will have presented a solo performance informed by a theatre theorist.

Higher Level Coursework: The Higher Level Students engage in one extra unit, a research presentation based on a theatrical style of their own choosing.

IB Dance SL/HL Y1-Y2

Course Codes: HS7013, HS7023, HS7033, HS7043

Duration: 2 years

Prerequisites: Dance 2 or permission from the teacher.

The IB dance course is for students to delve deeper into the art form of dance through performance, creative and analytical skills. The course focuses on the composition, performance and analysis of dance, or “expressive movement,” which is practiced amongst peoples of various backgrounds, and for a variety of purposes, throughout the world. Students create, participate in, and reflect upon dance forms and styles from a range of cultures and traditions, both familiar and unfamiliar. IB Dance embraces a variety of dance traditions and dance cultures, both current and past, while also encouraging students to look towards the future through the lens of dance.

Performance, creative and analytical skills are developed through the creation and performance of dance and through research and writing assignments. Students of IB dance will partake in physical technical training, dance history, composition and analysis of famous works. Participants in the course are expected to have taken Dance I and II or have equivalent dance training outside of SAS. Proof of dance training for the latter must be demonstrated in an audition/interview.



APPLIED ARTS COURSES

Applied Arts Department Flow Chart

Students in Grade 9-12 may take:

Fundamentals of Coding for STEM
(1 Semester)Fundamentals of Robotics
(1 Semester)GTAE-Quarter Courses
(4 x Quarter = 1 Full Year)Fundamentals of Physical Computing
(1 Semester)Fundamentals of Applied Engineering
(1 Semester)Fundamentals of Game Development
(1 Semester)Fundamentals of Web Design
(1 Semester)Advanced Physical Computing
(Full Year)**Fundamentals of Physical Computing**

Course Code: HS7018

Duration: Semester

Prerequisites: None

Credits: 0.5

This hands-on, project-focused course teaches you the fundamentals of electronics theory and basic circuits as you learn to use microcontrollers, sensors, and actuators to create interactive devices. You'll develop practical skills in soldering and circuit building while working through design sprints to rapidly prototype your ideas. Learn to program devices that can sense light, temperature, and motion, then trigger LEDs, motors, and sounds in response. From building a handheld game to creating a distance-sensing alarm system, you'll gain the electronics knowledge and maker skills to bring your creative ideas to life and understand how interactive technology actually works.

Platforms & Tools

Arduino microcontrollers, breadboards, electronic components, soldering equipment, and arduino programming.

Student Outcomes

By the end of this course, you'll be able to build circuits on breadboards, solder components safely and effectively, program Arduino microcontrollers to read sensors and control actuators, and design and prototype interactive devices that solve real-world problems.

Fundamentals of Robotics

Course Code: HS8011

Duration: Semester

Prerequisites: None

Credits: 0.5

Bring machines to life! In this hands-on, highly practical course you'll design, build and program your own robots to complete real-world challenges. Learn the fundamentals of mechanical design, sensors and autonomous control as you work individually and in teams to create robots that can navigate mazes, manipulate objects and respond to their environment. Whether you're interested in engineering, computer science, or just want to see your creations come alive, this course will introduce you to the fundamental principles of robotics.

Student Outcomes

By the end of this course, you'll be able to design functional robot mechanisms, program autonomous behaviors using sensors, troubleshoot mechanical and programming issues, and collaborate on team-based robotics challenges.

Advanced Physical Computing

Course Code: HS7028

Duration: Year

Prerequisites: Fundamentals of Physical Computing OR Robotics OR GTAE-STEM Gateway

Credits: 1.0

Advanced Physical Computing is a year-long course that prepares students to design and build intelligent, connected systems that interact with the physical world. Students begin by mastering foundational electronics, microcontroller programming (Arduino and Raspberry Pi), sensor integration, motor control, and serial communication between devices. The course then advances into cutting-edge technologies including real-time computer vision with AI acceleration, local large language model deployment, voice recognition systems, and wireless IoT networks. Throughout both semesters, students engage in hands-on, project-based learning that emphasizes iterative design, systems thinking, and solving authentic real-world problems. The course culminates in a comprehensive capstone project where students integrate multiple technologies—combining vision, voice, reasoning, and physical control—to create fully-functional systems with professionally fabricated enclosures.

Tools and Techniques

Students develop expertise with industry-standard tools and platforms including Raspberry Pi 5 with Hailo 8 AI accelerator (26 TOPS), Arduino microcontrollers, Pico 2W and ESP32S3 wireless platforms, Python programming (including Flask, GPIOZero, and MicroPython), Local Large Language Models/AI deployment, Whisper for voice recognition, and CVZone for computer vision. Technical skills span embedded systems programming, web server development, Edge IoT communication protocols, AI/Machine Learning integration at the edge, and digital fabrication using CAD software, 3D printers, and laser cutters for professional project enclosures.

Fundamentals of Web Design

Course Code: HS8006

Duration: Semester

Prerequisites: None

Credits: 0.5

Build and launch your own websites! Learn the creative and technical skills needed to design beautiful, functional websites from scratch using HTML, CSS, and JavaScript/Bootstrap. You'll master the fundamentals of layout, color theory, and user experience while learning how to make your sites interactive and responsive on any device. By the end of the semester, you'll deploy your own live website to the internet and have a portfolio piece that showcases your abilities, perfect for college applications, internships, or just impressing your friends.

Platforms and Tools

HTML5, CSS3 using VS Code or similar text editor, Git/GitHub for version control, web hosting platforms, responsive design frameworks.

Student Outcomes

By the end of this course, you'll be able to create well-structured HTML pages with semantic markup, style websites using CSS including layouts and responsive design, add interactivity with JavaScript, deploy live websites to the internet, and maintain a portfolio of web development projects. This course focuses on frontend development

Fundamentals of Applied Engineering

Course Code: HS8006

Duration: Semester

Prerequisites: None

Credits: 0.5

Think like an engineer and solve real problems! This course introduces you to the engineering design process through hands-on projects that tackle authentic challenges. You'll learn to brainstorm solutions, create prototypes, test your designs, and iterate based on results—the same process professional engineers use every day. Whether you're designing structural supports, creating assistive technology solutions, or optimizing systems for efficiency, you'll develop problem-solving skills that apply to any STEM career while discovering which engineering fields excite you most.

Platforms and Tools

CAD software (TinkerCAD, Autodesk Fusion), 3D printers, laser cutters, hand tools, power tools, engineering notebooks and a varied range of materials.

Student Outcomes

By the end of this course, you'll be able to apply the engineering design process to real-world problems, create and test prototypes using various tools and materials, document your design process in an engineering notebook, evaluate designs based on constraints and criteria whilst exploring multiple engineering disciplines.

Fundamentals of Coding for STEM (Control Systems)

Course Code: HS8006

Duration: Semester

Prerequisites: None

Credits: 0.5

Learn to code by controlling the real world with microcontrollers. Using Python and the Raspberry Pi Pico, you'll master programming fundamentals, including syntax, conditionals, loops, and Boolean logic while building hands-on projects that interact with sensors, actuators, and AI. Write code that reads temperature, detects motion, controls motors, and responds to light, then see your programs spring to life as they control physical devices. This course balances essential programming skills with practical applications, giving you the confidence to code in Python and the excitement of watching your programs make things move, light up, and react. Perfect for beginners ready to learn coding while creating real control systems that bridge the digital and physical worlds.

Platforms and Tools

Raspberry Pi Pico microcontrollers, Python programming language, Thonny IDE, sensors (temperature, motion, light), actuators (motors, LEDs, servos), and introductory AI/machine learning tools.

Student Outcomes

By the end of this course, you'll be able to write Python programs using proper syntax and structure, implement conditionals, loops, and Boolean logic to control program flow, integrate sensors and actuators into physical computing projects, debug code systematically, and apply basic AI concepts to control systems.

Fundamentals of Game Development

Course Code: HS8006

Duration: 4 x Half Semester Micro Courses

Prerequisites: None

Credits: 1.0

Create the games you love to play! This Game Development course is predominantly project-based, highly visual and interactive, making it engaging for new coders. After we have iterated through a number of small game development tasks, students will then design and develop a complete 2D game using Construct 3 and JavaScript.

Along the way, students will also get to play games, analyze them through a technical lens and understand the principles of good game design. Whether you want to create platformers, puzzles, or adventure games, you'll gain practical skills in problem-solving, creativity and programming, all while having fun bringing your imaginative worlds to life.

Platforms and Tools

Construct 3 (Game Development engine), Aseprite (graphics), music editing software and generative AI tools.

Student Outcomes

By the end of this course, you'll be able to design game mechanics and player experiences, program game logic and behaviors, create or integrate game assets (sprites, sounds, animations), develop and playtest complete games, and understand core concepts that transfer to broader software development.

STEM-GTAE Gateway (Generative Technologies & Applied Engineering)

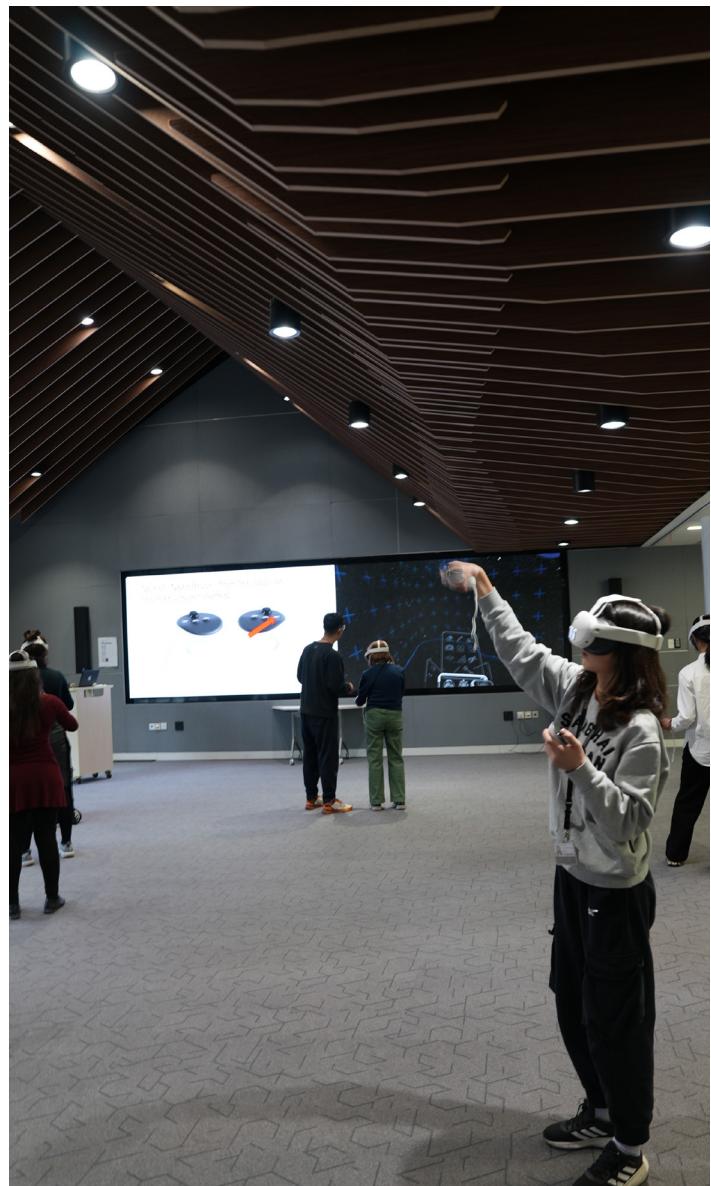
Course Code: HS8006

Duration: 4 x Half Semester Micro Courses

Prerequisites: None

Credits: 1.0

Students select and complete 4 micro courses throughout the academic year, with each course running approximately 8 weeks. This rotating structure provides a comprehensive and coherent introduction to STEM (Science, Technology, Engineering, and Mathematics) and GTAE (Generative Technologies and Applied Engineering), allowing you to explore multiple disciplines and discover your interests while building foundational skills.



NEW - SAS GENERATIVE TECHNOLOGIES & APPLIED ENGINEERING (GTAE) PATHWAY

SAS is introducing a new Pathway for students interested in disciplines related to Generative Technology and Applied Engineering.

Overview of Pathway:

Grade 9-12	Grade 10-11-12	Grade 11-12
Foundational Year Quarterly Courses NEW 2026-27	Semester Courses Non-sequential NEW 2027-28	Full Year Course
Introduction to Robotics (Robotics & Automation)	Machine Learning (deeper dive into AI)	
Introduction to Product Design & Manufacturing	Generative Tech (LLMs on Raspberries & Machine Learning)	
Introduction to Physical Computing	Advanced Game Design	Engineering & Entrepreneurship Capstone Project/Lab NEW 2026-27
Introduction to Applied Engineering	Immersion Lab (offsite immersion & onsite lab)	
Introduction to Python Programming for Engineers	Product Development	
Introduction to Design Theory (for students new to SAS or without Middle School Design Technology experience)	Cyber Security	AP & IB Courses
		ASAs/Clubs

Please note that any combination is possible. Below are some ideas for possible Pathways to consider:

Interest in Robotics and Engineering: Introduction to Robotics, Introduction to Product Design & Manufacturing, Introduction to Physical Computing, and Applied Engineering.

Interest in Computer Science and Physical Computing: Introduction to Coding for Engineers, Introduction to Physical Computing, Introduction to Robotics, Intro to Applied Engineering.

Interest in Design: Introduction to Design Theory, Applied Engineering, Applied Manufacturing, and Capstone

Follow your own interests: Any combination that gives you the experiences you seek.

NEW COURSES 2026-27**Introduction to Robotics (Robotics & Automation)**

Course Code: HS0009

Duration: Quarter

Prerequisites: None

Credit: 0.25

This quarter-length course introduces students to core robotics concepts using VEX V5 as a platform. Students explore building drivetrains, mechanisms, and structures while developing an understanding of how to use sensors and actuators. Students will use programming to create autonomous behaviors in their automated systems. Emphasis is on hands-on building, testing and debugging, giving students a tangible sense of how hardware and software interact while preparing them for more advanced robotics and physical computing pathways.

Introduction to Product Design & Manufacturing

Course Code: HS0009

Duration: Quarter

Prerequisites: None

Credit: 0.25

Designed as an accessible entry point into manufacturing and product design, this quarter-length course focuses on how real products are made at scale. Students use CAD tools to design parts, then prototype them using digital fabrication and workshop tools. The course emphasizes tolerances, limits and fits, fasteners, and small-batch production. Along the way, they encounter key ideas such as batch vs continuous production, basic quality control and simple costing, positioning this course as a bridge toward more advanced manufacturing or product development offerings and the eventual Capstone, where students must show how a product could be made in industry.

Introduction to Physical Computing

Course Code: HS0009

Duration: Quarter

Prerequisites: None

Credit: 0.25

Transform from curious beginner to confident maker by building interactive electronic projects that respond to the world around them.

You'll master circuit design and Arduino programming, progressing from basic LED circuits to working with sensors (temperature, distance, light) and actuators (motors, servos, buzzers). Learn practical skills like soldering, multimeter use, and systematic troubleshooting while building hands-on projects every step of the way.

The course culminates in a final project where you'll combine multiple components—imagine building an obstacle-avoiding robot, smart plant monitor, or interactive light-responsive instrument.

From blinking LEDs to integrated systems—your journey into physical computing starts here.

Introduction to Applied Engineering

Course Code: HS0009

Duration: Quarter

Prerequisites: None

Credit: 0.25

Applied Engineering is a quarter-length hands-on course where students learn to turn ideas into functional physical prototypes. They are introduced to the engineering design process and apply it to design, build, test, and refine products that solve practical challenges. Using CAD alongside tools such as 3D printers, laser cutters, and basic workshop machinery, students develop confidence with materials, fabrication techniques, systems and control, and project management. The course sits at the intersection of Design Technology and Engineering, reinforcing skills that support future work in product development, robotics, and manufacturing.

Introduction to Python Programming for Engineers

Course Code: HS0009

Duration: Quarter

Prerequisites: None

Credit: 0.25

This course teaches you Python—the programming language you'll use throughout the engineering pathway for robotics and physical computing. Before building complex hardware projects, you need to think like a programmer, and that's what this course is all about.

You'll learn:

- Core Python fundamentals – variables, data types, loops, conditionals, and functions
- Problem-solving with algorithms – breaking down complex problems into logical steps
- Data structures – lists, dictionaries, and how to organize information effectively
- Debugging skills – finding and fixing errors systematically
- Version control with Git/GitHub – tracking your code changes and collaborating with others

While the focus is on software and programming logic, you'll also work with basic circuits and microcontrollers to see your code come to life—reinforcing what you learn and connecting it to real-world applications. By the end of this course, you'll be ready to write code that controls sensors, motors, and autonomous systems in future Physical Computing and Robotics courses.

This course establishes the programming foundations students need for computer science and hardware-related pathways. Using Python as the primary language, students learn core concepts such as variables, control structures, functions, and basic data structures, along with good debugging habits. The course introduces version control with Git/GitHub to support collaborative and iterative work. While primarily software-focused, it maintains a clear link to physical computing and robotics by framing programming as the logic layer behind sensors, control systems and autonomous behavior in later courses.

Introduction to Design Theory

Course Code: HS0009

Duration: Quarter

Prerequisites: for students new to SAS or without Middle School Design Technology experience

Credit: 0.25

Intended especially for students new to SAS or without Middle School Design Technology experience, Design Theory provides a gateway into design thinking and workshop culture. Students learn fundamental design principles that apply to both physical and digital products, practice low-fidelity prototyping, and experience user-centered design processes such as empathy, ideation, rapid iteration and critique. The course also introduces essential workshop and lab safety expectations so that all students reach a common baseline of competence and confidence before moving into more technical GTAE courses.

Engineering & Entrepreneurship Capstone

Course Code: HS8406

Duration: Year

Prerequisites: 2 Applied Arts or Equivalent credits

Credit: 1

The Engineering Capstone is a full-year, project-based course in which students draw on skills from prior GTAE courses to take a self-directed product from concept to market-ready prototype. Students conduct user research, define and validate problems, design and iteratively prototype physical, digital, and/or hybrid solutions, and plan how they could be manufactured at scale. In parallel, students develop entrepreneurial competencies—market testing, basic business modeling, costing and pitching—supported by experts-in-residence and external feedback. The year culminates in a professional-level demonstration and portfolio that showcases end-to-end engineering and product development capability.

PHYSICAL/HEALTH EDUCATION COURSES

Physical And Health Education Department Flow Chart

Grade 9 students will take:

Physical & Health Education 1

Grade 10 students will take:

Physical & Health Education 2

Grade 11 and 12 students may choose any of the courses below based on meeting prerequisites:

**PE 3:
Personal Fitness
(semester course)**

**PE 3:
Swimming & Water
Safety Instructor
(semester course)**

**PE 3:
Lifeguarding
(semester course)**

Legend

 SAS course

Physical & Health Education 1

Course Code: HS7000

Duration: Year

Prerequisites: None

Credits: 1.0

The PHE I course at Shanghai American School aims to foster a desire for lifelong fitness and health. This is done through a skills based program aimed at teaching students how to play a number of popular sports, alongside an introduction to health-related fitness. Within this, a strong emphasis is also placed on daily effort and participation.

Physical Education units include both team and individual activities including fitness, aquatics, basketball, badminton and soccer. Students are assessed against the SHAPE America standards,

which SAS has adopted in an effort to provide the students with a guaranteed and viable curriculum designed around their health, well-being and longevity in physical activity.

The Health element of the course is designed to educate students in sexual health, self-esteem, values, decision-making skills, and advocacy. The course content is guided by the UNESCO CSE standards to ensure a relevant curriculum that presents sexuality with a positive approach, emphasizing values such as respect, inclusion and empathy.

Physical & Health Education 2

Course Code: HS7001

Duration: Year

Prerequisites: Physical & Health Education 1

Credits: 1.0

The PHE II course at Shanghai American School continues to build upon previous learning and prepare students for life after PHE. The focus in Grade 10 is more on the theoretical side of both sport and fitness.

Students are encouraged to use advanced strategies and tactics in game-based activities and apply them both in open and closed tasks. In fitness they set personal goals aimed at improving and maintaining an aspect of their health in order to add context to their learning. They then design individualized programs using apps and websites, as they add meaning through real-life learning, and are assessed against the SHAPE America standards.

The Health element of the course builds upon what they learned in Grade 9 and once again adds context by narrowing its focus towards aspects of lifestyle health. Topics include drugs and alcohol safety, nutrition, sleep, social media influences and gender stereotypes.

PE 3 – Personal Fitness

Course Code: HS7002

Duration: Semester

Prerequisites: Physical & Health Education 2 or equivalent

Credits: 0.5

Personal Fitness allows students to begin their own personalized fitness journey in Grade 11 and 12. This course empowers students to take charge of their own health and wellness by setting individual fitness goals and creating customized workout programs that align with their interests and aspirations.

Highlights of this course include, but are not limited to:

1. Fitness Room Orientation
2. Goal Setting and Program Development
3. Exploration of health-related components of fitness and skill
4. Inclusivity of all fitness levels
5. Support for all SAS athletes looking to improve in their specific sport

The assessment structure for this course has been designed to foster a supportive learning environment while encouraging personal growth and accountability in each student's fitness journey.

PE 3 – SWIM Australia™ Pool Lifeguard

Course Code: HS7007

Duration: Semester

Prerequisites: Be at least 15 years of age by the last scheduled session of the course. Participants are expected to possess adequate physical fitness and good health to enroll in this course, as it involves various physical activities, including kneeling, bending, crouching, standing, leaning, sitting, pushing, lifting weights, swimming long distances, towing, diving, carrying, and performing CPR for extended periods, among other forms of physical exertion.

Credits: 0.5

The Pool Lifeguard course is designed to equip candidates with the essential skills and knowledge needed to ensure safety in aquatic environments. Participants will engage in hands-on training and theoretical learning, preparing them to effectively supervise patrons and perform water rescues.

Upon successful completion of all assessment requirements, candidates will receive a Statement of Attainment for the following nationally recognized units of competency:

- SISCAQU019 Supervise patron safety in aquatic locations
- SISCAQU020 Perform water rescues
- SISCAQU021 Perform complex water rescues
- SISCAQU022 Provide oxygen resuscitation and therapy in an aquatic environment

Please note that this certification is valid only in Australia and not in other countries, including the US.

Dance 1-2

Course Codes: HS7010 and HS7071

Duration: 0.5 or 1 semester

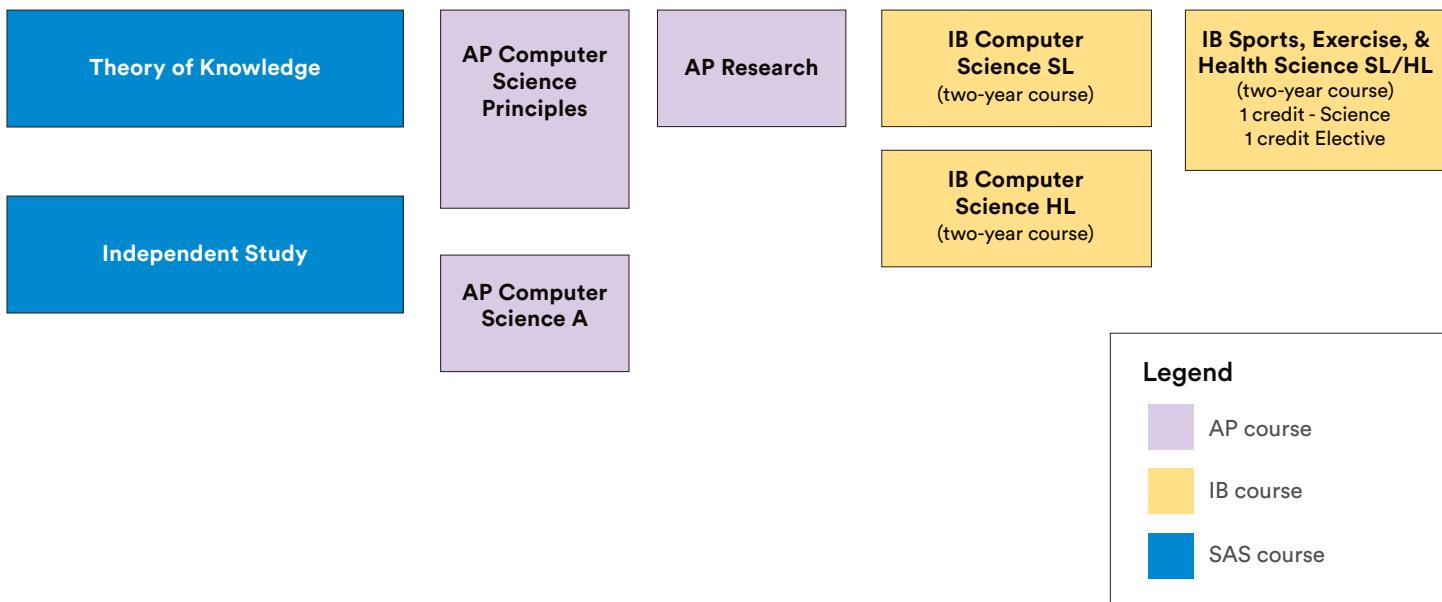
Prerequisites: None

Credits: 0.5 credit or 1 year: 1 credit (Performing Arts elective or PE credit)

Dance is a course designed for any male or female who would like to use the assets of dance to improve physical fitness, to increase talents in athletics, and to develop the ability to dance either for fun or as a performer. This course combines dance exercises, dance technique, and dance choreography. The class is designed to improve posture, strength, flexibility, endurance, agility, balance, and choreographic and improvisational techniques. Students will experience various types of dance including ballet, modern, jazz, hip-hop, Broadway, and some elements of tap, social, and folk dance and they will incorporate what they have learned into creative dance choreography. Students will also learn to evaluate dance and make aesthetic decisions in regards to creativity. Students will apply appropriate injury prevention techniques and will learn aspects of dance history as well. This course can be counted towards a PHE graduation requirement in exceptional circumstances and with prior approval.

ELECTIVE COURSES

Students may choose any of the courses below based on meeting prerequisites:



Theory of Knowledge

Course Codes: HS8101 (Y1 – grade 11 students only),
HS8102 (Y2 – grade 12 students only)

Duration: Year

Credits: 1.0

Theory of Knowledge (TOK) is a course about critical thinking and inquiring into the process of knowing, rather than about learning a specific body of knowledge. It is a required core course for the IB diploma and is also available for non-diploma students. The TOK course examines how we know what we claim to know. It does this by encouraging students to analyze knowledge claims and explore knowledge questions. The most central of these is “How do we know?”, while other questions include: What counts as evidence for X?; How do we judge which is the best model of Y? and What does theory Z mean in the real world? Through discussions of these and other questions, students gain greater awareness of their personal and ideological assumptions, they develop an appreciation of the diversity and richness of cultural perspectives, and they reflect critically on diverse Ways of Knowing and on Areas of Knowledge.

Note that this course runs during the second semester of Grade 11 and the first semester of Grade 12. It is expected that students will take both semesters. The external IB assessments consist of an exhibition of three objects at the end of the grade 11 semester and a 1600-word essay that takes place during the Grade 12 semester.

AP Research

Course Code: HS8400

Duration: Year

Prerequisites: AP Capstone Seminar

Credits: 1.0

AP Research allows students to deeply explore an academic topic, problem, or issue of individual interest. Through this exploration, students design, plan, and conduct a year long mentored, research-based investigation to address a specific question. In this course, students further develop the skills acquired in the AP Seminar course by learning about and understanding research methods; employing ethical research practices, and accessing, analyzing, and synthesizing information as they address a research question.



AP Computer Science A

Course Code: HS8201

Duration: Year

Prerequisites: None

Credits: 1.0

AP Computer Science A introduces you to the foundations of programming and computational thinking using Java, one of the world's most widely-used programming languages. Through hands-on coding projects and problem-solving challenges, you'll learn to design algorithms, write and debug programs, work with data structures like arrays and ArrayLists, and analyze real-world data sets—skills that are essential across nearly every modern career field.

The updated 2025–2026 curriculum focuses on practical, industry-relevant skills including reading from files and processing data, preparing you for both the fully digital AP exam and college-level computer science coursework. Whether you're curious about how apps and software are built, considering a future in technology, or simply want to develop logical thinking skills that transfer to any discipline, this course offers a challenging and rewarding introduction to the art and science of programming.

No prior coding experience is required—just a foundation in algebra and a willingness to think creatively about solving problems.

AP Computer Science Principles: Python

Course Code: HS8204

Duration: Year

Credits: 1.0

AP Computer Science Principles is an engaging, beginner-friendly course that explores how computing and technology shape every aspect of our modern world—no prior programming experience required. Using Python as our programming language, you'll learn to create your own programs, analyze data to uncover meaningful patterns, understand how the Internet works, and critically examine the social and ethical impacts of the technology we use every day.

Through hands-on projects and collaborative problem-solving, you'll develop computational thinking skills that transfer to virtually any career path, from medicine and business to art and engineering. The course culminates in a Create Performance Task where you'll use the PyGame library to build an interactive program of your own design—whether that's a game, simulation, or creative application. We embrace AI as a learning tool in this course, teaching you to leverage AI assistants for debugging, exploring concepts, and enhancing your creative process while developing the critical thinking skills to evaluate and understand what these tools produce.

Whether you're curious about how apps are built, interested in data science, or simply want to be a more informed digital citizen, AP CSP provides a welcoming entry point into computer science.

IB Computer Science SL/HL Y1-Y2

Course Codes: HS8115 (SL Y1); HS8125 (SI Y2); HS8135 (HL Y1), HS8145 (HL Y2)

Duration: Two years

Credits: 2.0

The IB Computer Science course is a comprehensive program that equips students with both theoretical knowledge and practical skills in computing. The course covers fundamental concepts of computing systems, algorithmic thinking, and computer programming, while also exploring contemporary topics like machine learning.

Students learn through two main themes: understanding how computing systems work, and applying computational thinking to solve real world problems. The curriculum emphasizes not just technical knowledge, but also the ethical implications of technology and its broader impact on society, environment, and culture.

Throughout the course, students develop crucial skills in computational thinking, including problem decomposition, abstraction, and algorithm development. They gain hands-on programming experience in either Python or Java, and higher-level students delve deeper into advanced concepts like object-oriented programming and abstract data types. A significant component of the course is the practical application of these skills through a computational solution project, where students identify and solve a real-world problem of their choosing.

By the end of the program, students are well-prepared for university-level computer science studies and have developed a strong foundation in both theoretical concepts and practical programming skills, along with an appreciation for the broader implications of computing in our world.

IB Sports, Exercise, & Health Science SL Y1-Y2

Course Codes: 7030 (Y1), 7031 (Y2)

Prerequisites: Physical & Health Education II

Duration: Two years

Credits: 1.0 Science (Y1), 1.0 Elective (Y2)

This two-year course aims to introduce students to some of the scientific components that make up the study of sport, exercise, and health. The diploma program course in Sports, Exercise, and Health Science involves the study of the science that underpins physical performance and provides the opportunity to apply these principles.

As stated in the IB guide, this course incorporates the traditional disciplines of anatomy and physiology, biomechanics, psychology, and nutrition, which are studied in the context of sport, exercise, and health. Students will cover both core and option topics and carry out practical (experimental) investigations in both laboratory and field settings. This will provide an opportunity to acquire the knowledge and understanding necessary to apply scientific principles and critically analyze human performance. Where relevant, the course will address issues of internationalism and ethics by considering sport, exercise, and health relative to the individual and in a global context.

Higher Level Coursework: Students at HL are required to study additional higher level (AHL) material, conduct extra hours in the lab, and cover further HL topics within the options. The distinction between SL and HL is one of breadth and depth. Additional units include further anatomy; the endocrine system; fatigue; friction and drag; skill acquisition and analysis; genetics and athletic performance, and exercise and immunity.

Independent Study

Course Code: HS8405

Duration: One year

Credits: 1.0

The Independent Studies (IS) program provides an exciting opportunity for recommended and selected Grade 11 and 12 students to design and pursue their own course of study under faculty guidance. Students will submit proposals for a self-designed course that is either not currently offered at SAS or is not taught in depth. For example, students might propose writing their own novel or collection of short stories, creating an architectural portfolio, or developing a fashion collection. Interests are wide and varied, and in the IS course, you are encouraged to elevate and explore what you find compelling. Upon approval from the IS Coordinator, students will be enrolled in the course for the year and will participate in workshops, seminars, and structured, but flexible, independent thinking and study.

Throughout the course, students will collaborate closely with the IS Coordinator to create and complete a comprehensive study plan that culminates in a Capstone project and presentation, as well as a Dissertation-style review of their learning and achievements. To enrich their experience, every effort will be made to connect students with a professional mentor outside of the school who is knowledgeable about their chosen academic pursuit.

These experiences will empower students to demonstrate practical applications of their learning and deepen their understanding of their field. The program is designed to foster independence, creativity, and critical thinking skills—essential attributes for success in higher education and beyond—while providing students with a platform for authentic, personalized learning.



LEARNING SUPPORT

Student may be placed into the following class:

Learning Support

Learning Support

Course Code: HS8901

Prerequisites: Grade 9, 10, 11, & 12 students by placement

Credits: 0

The Learning Support (LS) program provides opportunities for students with learning differences to experience academic success. Through a combination of skills-based and course-specific support, the program contributes to each student's academic and personal growth. Students in the LS program may receive push-in and/or pull-out learning support as well as accommodations for learning and assessment. The program focuses on learning strategies that will contribute to each student's academic and personal growth.



ONLINE LEARNING

Grade 11/12 may enroll in the following online learning options:

Global Online Academy

Pamoja Education

Virtual High School

Legend

 Pamoja IB online courses

 VHS online courses



SAS is proud to offer even broader curriculum opportunities to our students.

Where a clear need exists we may be able to provide IB online courses. These online courses are available in the first instance to IB Diploma students. While studying online is an academically respected option, it may not suit all students. Course tuition fees will be paid by SAS.

The online IB courses will be offered through Pamoja, an approved provider of IB courses online. You can find out more about Pamoja on their website: <http://www.pamojaeducation.com>

Why would an IB student take a course online?

- The student's subject choices do not quite match the master schedule. Occasionally there are scheduling conflicts, and rather than constraining a student to make a second choice, online could be an option.
- If there were only a small amount of students wanting to do a course, and it was not offered at SAS.
- Other extenuating circumstances, including students transferring part way through the diploma.

Courses offered by Pamoja:

IB Mandarin ab initio
 IB French ab initio
 IB Business & Management HL
 IB Business & Management SL
 IB Digital Society HL
 IB Digital Society SL
 IB Philosophy SL

GOA students are modern learners

The mission of Global Online Academy (GOA) is to reimagine learning to enable students to thrive in a globally networked society. GOA provides a positive, interactive, and academically rigorous environment for students to learn. We offer courses that connect students to topics they care about, and we offer a network that connects students to peers as passionate as they are.

As GOA learners, our students also develop a specific set of skills, skills that might not be exercised as often in a bricks-and-mortar environment. Based on our research, student surveys, and feedback from our faculty, we have identified the following six core competencies

that our students develop in practical, hands-on ways, no matter which GOA course they take:

1. Collaborate with people who don't share your location.
2. Communicate and empathize with people who have perspectives different from your own.
3. Curate and create content relevant to real-world issues.
4. Reflect on and take responsibility for your learning and that of others.
5. Organize your time and tasks to learn independently.
6. Leverage digital tools to support and show your learning.

Students will need to complete an application from the counseling office and return it. Once they are approved, students will select course preferences (first choice, second choice, etc.) for first semester and second semester. Seats for GOA courses are limited. Mr. Mike McAvoy, Puxi HS GOA site coordinator, will make the final approval for all GOA course requests.

Students may view the catalog on the GOA website. (<https://globalonlineacademy.org/>)



SAS students in grades 11 and 12 may request to take an online course from the Virtual High School (VHS) for SAS credit. These courses will be taken entirely online from a non-SAS teacher. Courses offered by VHS include AP and regular courses. Many VHS courses are offered for one semester while AP classes are offered for a full year. You can peruse the courses available in the VHS Course Catalog at <https://www.vhslearning.org>

SAS students may take a maximum of seven courses in any semester, which can include one VHS course per semester. There is no additional cost for an approved SAS student to take a VHS course. Students who are interested in taking a VHS course should review all the relevant information on the Virtual High School site and should then meet with their counselor to discuss the implications of taking a VHS course. Students who, after meeting with their counselor, would like to request to take an online VHS course should complete the VHS application form (available in the Counseling Office). The completed application should be submitted to the student's counselor with their course selection form at the regular due date for course selections. Seats for VHS courses are limited. Mr. Mike McAvoy, Puxi HS VHS site coordinator, will make the final approval for all VHS course requests.

Priority for VHS courses will be given to students with schedule conflicts.

Please refer to the Student Handbook for Online Course grading guidelines and practices.

If you are interested in taking an online course, please review the VHS Course Catalog (<https://www.vhslearning.org>) and carefully decide which courses you might like to take. If you have any questions about the VHS program at SAS, please contact your counselor.

Shanghai American School inspires in all students:

上海美国学校激励并培养所有的学生:

A lifelong passion for learning

终身学习的热情

A commitment to act with integrity and compassion

诚信与仁爱的信念

The courage to live their dreams.

追求梦想的勇气。



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Thanks to our high school students and teachers for letting their photos and artworks be displayed in this book.