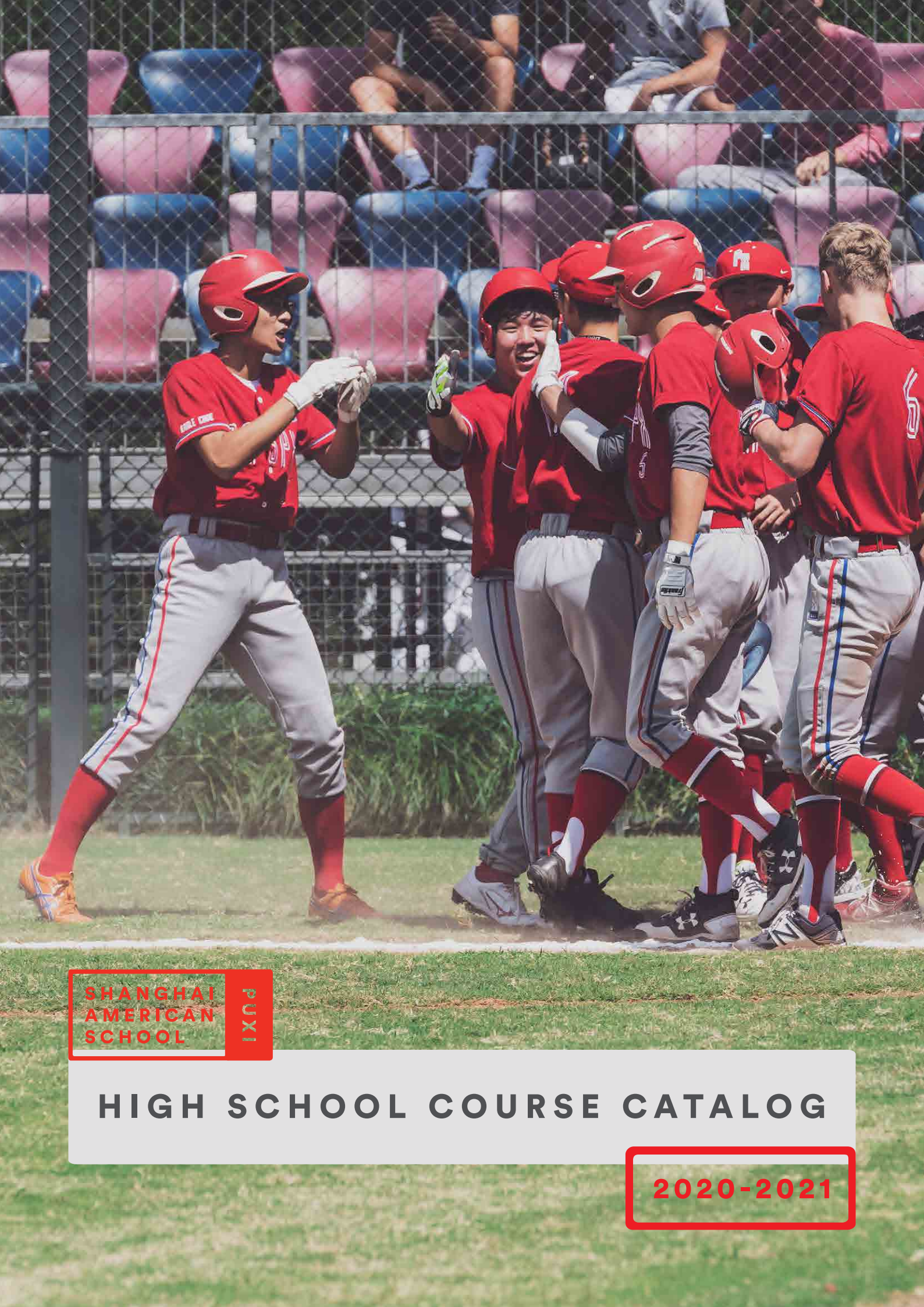

SHANGHAI AMERICAN SCHOOL PUXI

HIGH SCHOOL COURSE CATALOG

2020-2021

SHANGHAI AMERICAN SCHOOL

JULY/AUGUST 2020

SUN	MON	TUE	WED	THU	FRI	SAT
26	27	28	29	30	31	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

SEPTEMBER 2020

SUN	MON	TUE	WED	THU	FRI	SAT
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

OCTOBER 2020

SUN	MON	TUE	WED	THU	FRI	SAT
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

NOVEMBER 2020

SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

DECEMBER 2020

SUN	MON	TUE	WED	THU	FRI	SAT
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

JANUARY 2021

SUN	MON	TUE	WED	THU	FRI	SAT
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

2020–2021

IMPORTANT DATES

July/August
July 27 Arrival of New Faculty
August 5 First Day for Returning Faculty
August 10 New Student Orientation Puxi
August 11 New Student Orientation Pudong
August 12 First Day for Students
August 26 Early Release for Students

September
11 PD Day (no school for students)

October
1-7 National Day Break (no school)
14 Early Release for Students
29 Parent Conferences (school in session)
30 Parent Conferences (no school)
31 Potential 'Make-Up' Day for School Closure

November
11 Early Release for Students
27 American Thanksgiving Holiday (no school)

December
2 Early Release for Students
17 End of 1st Semester
18-31 Winter Holiday (no school)

January
1-5 New Years Day and Winter Holiday continues
6 School Resumes
13 Early Release for Students

February
3 Early Release for Students
10-19 Chinese New Year Holiday (no school)

March
11 Parent Conferences (school in session)
12 Parent Conferences (no school)
13 Potential 'Make-Up' Day for School Closure
17 Early Release for Students

April
5 Tomb Sweeping Day (no school)
6-9 Spring Vacation (no school)

May
1-3 May Holiday (no school)
12 Early Release for Students

June
11 End of School Year – Students 1/2 Day
14 Dragon Boat Festival (no school)

LEGEND

- Holiday – no school for students & teachers
- Official Chinese holidays – school closed
- Potential 'make-up' day for school closure
- PD Day; circle indicates early release for students
- Other important dates, see above

FEBRUARY 2021

SUN	MON	TUE	WED	THU	FRI	SAT
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28						

MARCH 2021

SUN	MON	TUE	WED	THU	FRI	SAT
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

APRIL 2021

SUN	MON	TUE	WED	THU	FRI	SAT
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

MAY 2021

SUN	MON	TUE	WED	THU	FRI	SAT
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

JUNE 2021

SUN	MON	TUE	WED	THU	FRI	SAT
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

JULY 2021

SUN	MON	TUE	WED	THU	FRI	SAT
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

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Final – December 16, 2019

SHANGHAI AMERICAN SCHOOL PUXI

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CONTENTS

*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

SHANGHAI AMERICAN SCHOOL

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。

SAS CORE VALUES

We believe that:

- Embracing diversity enriches individuals and communities
- Acts of compassion and generosity of spirit create a better world
- When individuals take responsibility for their own decisions, they are empowered to make positive impact
- Each individual has intrinsic value and the potential to contribute to society
- Collaboration is key to overcoming complex challenges and achieving common goals
- Integrity is the foundation of enduring relationships, quality institutions and well-functioning communities
- As global citizens we have a duty to care for the earth and its inhabitants to ensure the well-being of humankind
- Creativity, critical thinking, and a lifelong passion for learning are essential to personal fulfillment and to meet the challenges of the future.

"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.

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
- Fine Arts/Performing Arts 2.0 credits
- Foreign Language 2.0 credits (2 years of the same language)
- Physical Education/Health 2.0 credits
- Electives 5.0 credits

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.

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 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)

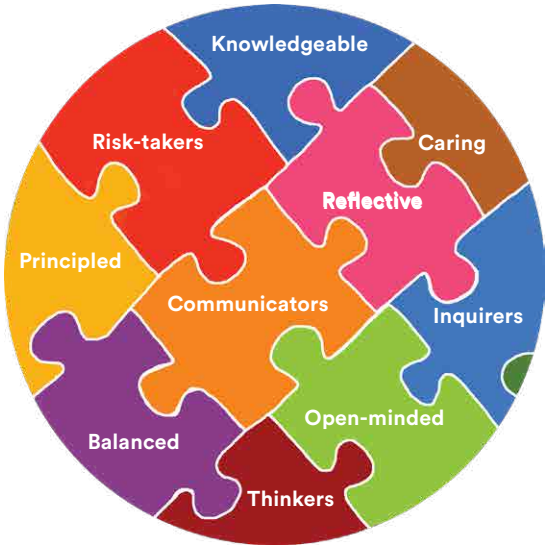
Students must undertake original research and write an extended essay of some 4,000 words. This offers the opportunity to investigate a topic of special interest from within one of their six examination subjects. It also acquaints students with the kind of independent research and writing skills expected 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 responsibility of the family.

SHANGHAI AMERICAN SCHOOL PUXI

IB Course Offerings 2020-21

IB Diploma candidates choose:

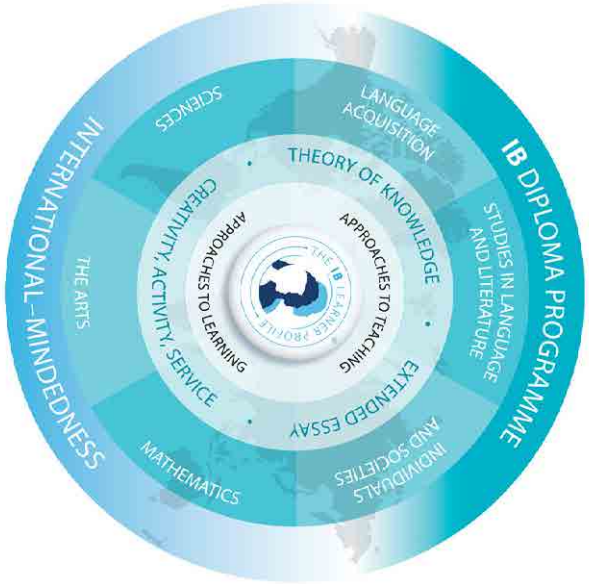
- 3 HL courses and 3 SL courses
- 1 course from each of the 6 groups, plus Theory of Knowledge (TOK)
- A second course from Groups 1-4 may be substituted for a course in Group 6.

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 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 3

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

Group 4

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

Group 5

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

Group 6

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

* These courses will be taught through Pamoja, an on-line provider. Contact Ms. Toni Hewett if you have any questions. toni.hewett@saschina.org

IB University recognition link: http://www.ibo.org/university-admission/recognition-of-the-ib-diploma-by-countries-and-universities/country-recognition-statements/

The Advanced Placement (AP) Program

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 required to take the AP exam in May.

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

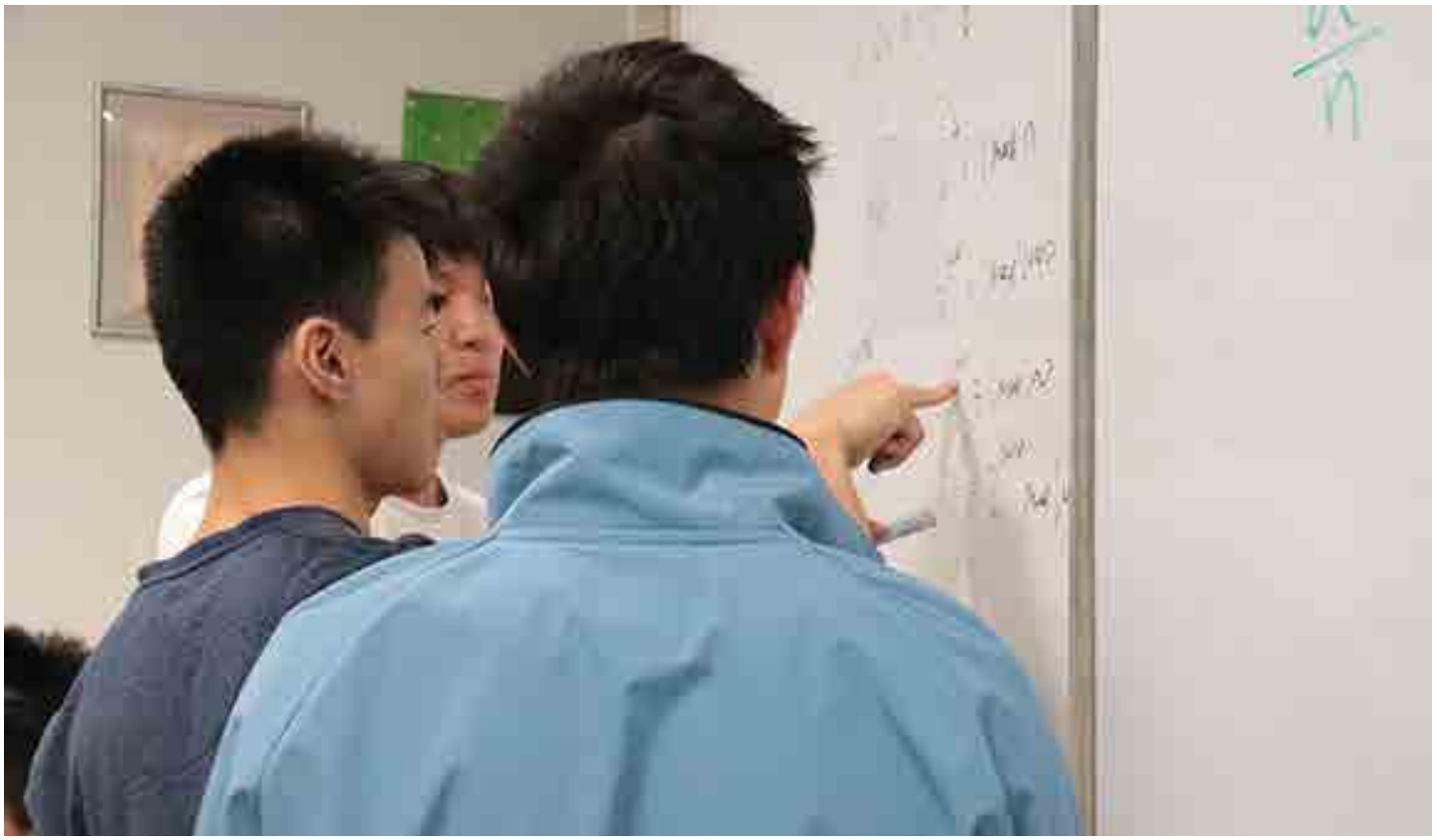
AP RESEARCH (Year 2)

- 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 Capstone 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.

Innovation Institute

The Innovation Institute is a transformational approach to education in which students are empowered to solve real-world problems through collaborative and creative processes. The Institute places learners at the center of the educational experience and challenges them to think critically and apply their learning to complex, interdisciplinary tasks. Students are asked to stretch themselves beyond the traditional learning framework by engaging in Project Based Learning that requires the use of 21st century skills.

The Innovation Institute is founded on four core principles.

1. Provide a 21st century learning environment where students actively apply the skills of communication, collaboration, creativity, and critical thinking.
2. Integrate core academic disciplines so that students explore learning concepts by making connections across academic domains.
3. Incorporate relevant, real-life situations through effective implementation of project-based learning.
4. Ensure that interdisciplinary project-based learning is rigorous, and all students taking a specific course will receive instruction driven by the same SAS standards.

Participation in the Innovation Institute requires a two-year commitment. Institute students in grade 9 and 10 are a part of a small learning community with four teachers who collaborate closely in order to provide an integrated learning experience.
Students will take four of their seven courses in the Institute. These courses are noted below:

GRADE 9

English 9
Asian History
Physics-Chemistry Lab Science
Creativity & Design

GRADE 10

English 10
AP Seminar
Biology Lab Science
Innovation & Design

What differentiates the Innovation Institute from the core program? The curriculum is taught through shared themes and projects that connect all four Institute courses, which allows students to explore the topics in an applied, real-world manner. During projects, students engage in design thinking processes and receive feedback from experts. Students are assessed through traditional assessments such as quizzes, exams, and essays; however, they will also be asked to apply their learning through collaborative projects that address real-world issues.

For more information about the Innovation Institute please contact Mr. Michael McAvoy at PXHS.InnovationInstitute@saschina.org

MASTER COURSE LIST

ENGLISH

page 13

Course	Course Codes	Credits	Grades
English 9	HS1000	1	9
English 10	HS1001	1	10
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
AP English Lit. & Composition	HS1201	1	11,12

MATHEMATICS

page 16

Course	Course Codes	Credits	Grades
Integrated Math 1 (IM1)	HS3203	1	9
Integrated Math 2 (IM2)	HS3205	1	9,10,11
Integrated Math 3 (IM3)	HS3207	1	10,11,12
Integrated Math 3 Plus (IM3+)	HS3208	1	10,11,12
Pre-Calculus	HS3004	1	11,12
Advanced Pre-Calculus	HS3005	1	10,11
Calculus	HS3006	1	10,11,12
IB Mathematics Application and Interpretation SL Y1-Y2	HS3120 HS3230	1	11,12
IB Mathematics Application and Interpretation HL Y1 -Y2	HS3121 HS3231	1	11,12
IB Mathematics Analysis and Approaches SL Y1-Y2	HS3141 HS3151	1	11,12
IB Mathematics Analysis and Approaches HL Y1-Y2	HS3134 HS3144	1	11,12
AP Calculus AB	HS3200	1	11,12
AP Calculus BC	HS3201	1	11,12
AP Statistics	HS3202	1	11,12
Statistical Mathematics	HS3007	1	11,12
Multivariable Calculus & Series	HS3204	1	12

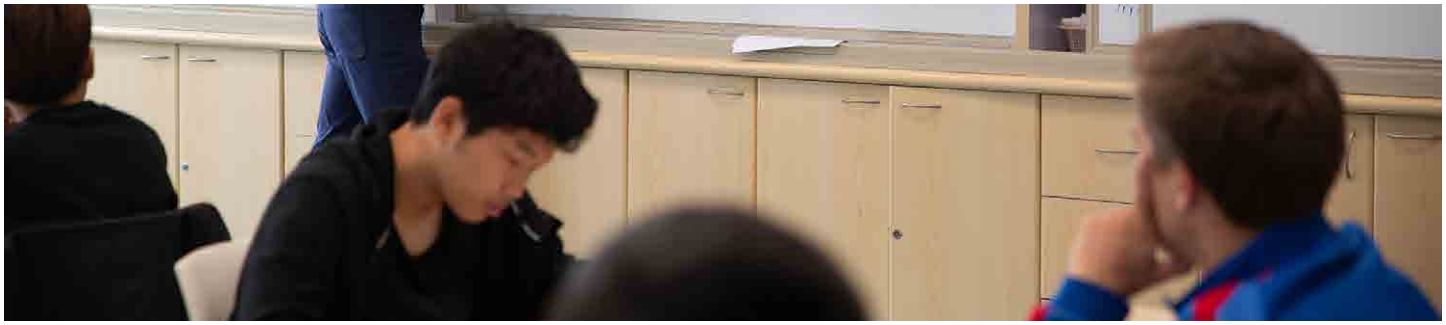
SOCIAL STUDIES

page 20

Course	Course Codes	Credits	Grades
Asian History	HS2000	1	9
US History	HS2002	1	10
Modern World History	HS2001	1	11,12
Sociology	HS2009	1	11,12
Applied Economics & Business	HS2018	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 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	HS2153	1	11,12
IB Global Politics HL	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
IB Information Technology in a Global Society SL Y1-Y2 *	HS2110 HS2120	2	11 12
IB Information Technology in a Global Society HL Y1-Y2 *	HS2130 HS2140	2	11 12
AP Capstone Seminar: Social Studies	HS2208	1	10,11
AP European History	HS2201	1	11,12
AP US History	HS2202	1	10,11,12
AP Psychology	HS2203	1	11,12
AP Economics	HS2204	1	11,12
AP Comparative Government & Politics **	HS2205	1	11,12

* These courses will be taught online through Pamoja (see page 52 for more details).

** Will not be offered again until the 2021-22 academic year.



SCIENCE

page 25

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
Independent Research & Design	HS4207	1	11,12
IB Environmental Systems & Society SL Y1-Y2	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, Electricity & Magnetism	HS4206	1	12

GLOBAL LANGUAGES

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Course	Course Codes	Credits	Grades
Accelerated Novice French	HS5052	1	9,10,11,12
Accelerated Intermediate French	HS5053	1	9,10,11,12
French 3	HS5003	1	9,10,11,12
French 4	HS5004	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 *Ab Initio* SL Y1-Y2	HS5151 HS5152	2	11 12
Accelerated Novice Spanish	HS5050	1	9,10,11,12
Accelerated Intermediate Spanish	HS5051	1	9,10,11,12
Spanish 3	HS5007	1	9,10,11,12
Spanish 4	HS5008	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 *Ab Initio* SL Y1-Y2	HS5155 HS5156	2	11 12

CHINESE LANGUAGE

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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	HS5027	1	9,10,11,12
Advanced Low	HS5031	1	9,10,11,12
Advanced Mid	HS5032	1	9,10,11,12
Advanced High	HS5029	1	9,10,11,12
IB Mandarin *Ab Initio* 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

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Course	Course Codes	Credits	Grades
Art Lab	HS6064	1	9,10,11,12
Art Coded	HS6065	1	9,10,11,12
Creativity & Design**	HS6050	1	9
Innovation & Design**	HS6051	1	10
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
IB Film HL Y1-Y2	HS8185 HS8195	2	11 12

** For the Grade 9 / Grade 10 Innovation Institute students only.

PERFORMING ARTS

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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 1	HS6024	1	9,10,11,12
Orchestra 2	HS6025	1	9,10,11,12
Music Theory, Composition and Technology	HS7014	0.5	9,10,11,12
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
Combat, Masks and Movement	HS6057	0.5	9,10,11,12
Acting for Stage and Beyond	HS6058	0.5	9,10,11,12
Theatre Making and Directing	HS6030	1	10,11,12
Audio Production	HS6034A (S1) HS6034B (S2)	0.5	10,11,12
Dance 1-2	HS7010	0.5-1	9,10,11,12
IB Theatre SL Y1-Y2	HS6112 HS6122	2	11 12
IB Theatre HL Y1-Y2	HS6132 HS6142	2	11 12

PHYSICAL & HEALTH EDUCATION

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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 – Sports League	HS7003	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

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Course	Course Code	Credits	Grades
Theory of Knowledge Y1-Y2	HS8101 HS8102	1	11 12
AP Capstone Research	HS8400	1	11,12
Intro to Physical Computing	HS7018	1	9,10,11,12
AP Computer Science Principles	HS8204	1	11,12
AP Computer Science A	HS8201	1	11,12
Introduction to Robotics	HS8011	1	9,10,11,12
Project Design	HS6038	1	9,10,11,12
Game and App Design	HS8402	1	9,10,11,12
Web Design & Virtual Reality	HS8009	1	9,10,11,12
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

LEARNING SUPPORT

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Course	Course Code	Credits	Grades
Learning Support	HS8901	0	9,10,11,12

ONLINE LEARNING

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Course	Course Codes	Credits	Grades
Pamoja Education	HS0	TBD	11,12
Virtual High School	HS9100	TBD	11,12

ENGLISH COURSES

English Department Flow Chart

Grade 9 students must enroll in:

English 9

Grade 10 students must enroll in:

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

IB English A: Language & Literature SL/HL (two-year course)

IB English A: Literature SL/HL (two-year course)

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

English 12

AP English Language & Composition

AP English Literature & Composition

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 wide range of historical and contemporary literature, covering the following genres: novel, short story, poetry, drama, and nonfiction. 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.

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 including a research paper or project, 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 others and the worlds in which they live through the study of classic and contemporary literature. 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 essays, and a research paper or project.

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 parts of the course are:

- 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 part of the course 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. 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.
The parts of the course are:

- 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 part of the course 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 for HL is more demanding than that of SL, requiring more texts to be used and a longer presentation. In addition, the external assessment criteria require the HL students to show a deeper understanding of content, write comparatively, complete more in-depth tasks and show a greater ability to analyze a writer's techniques than SL students.

AP English Language & Composition

Course Code: HS1200
Duration: Year
Prerequisites: English 10
Credits: 1.0

The main goal of AP English Language and Composition is to develop the high-level skills students will need to read and write effectively in their college courses and in their personal and professional lives. Students will read and write many different kinds of essays: argumentative, expository, analytical, personal, and creative. Students signing up for AP English Language need to have the basic skills necessary to handle a high-level composition course. In addition, a high degree of responsibility for class participation and independent learning is expected from students. All students enrolled in an AP subject must sit the external exam at the end of the school year.

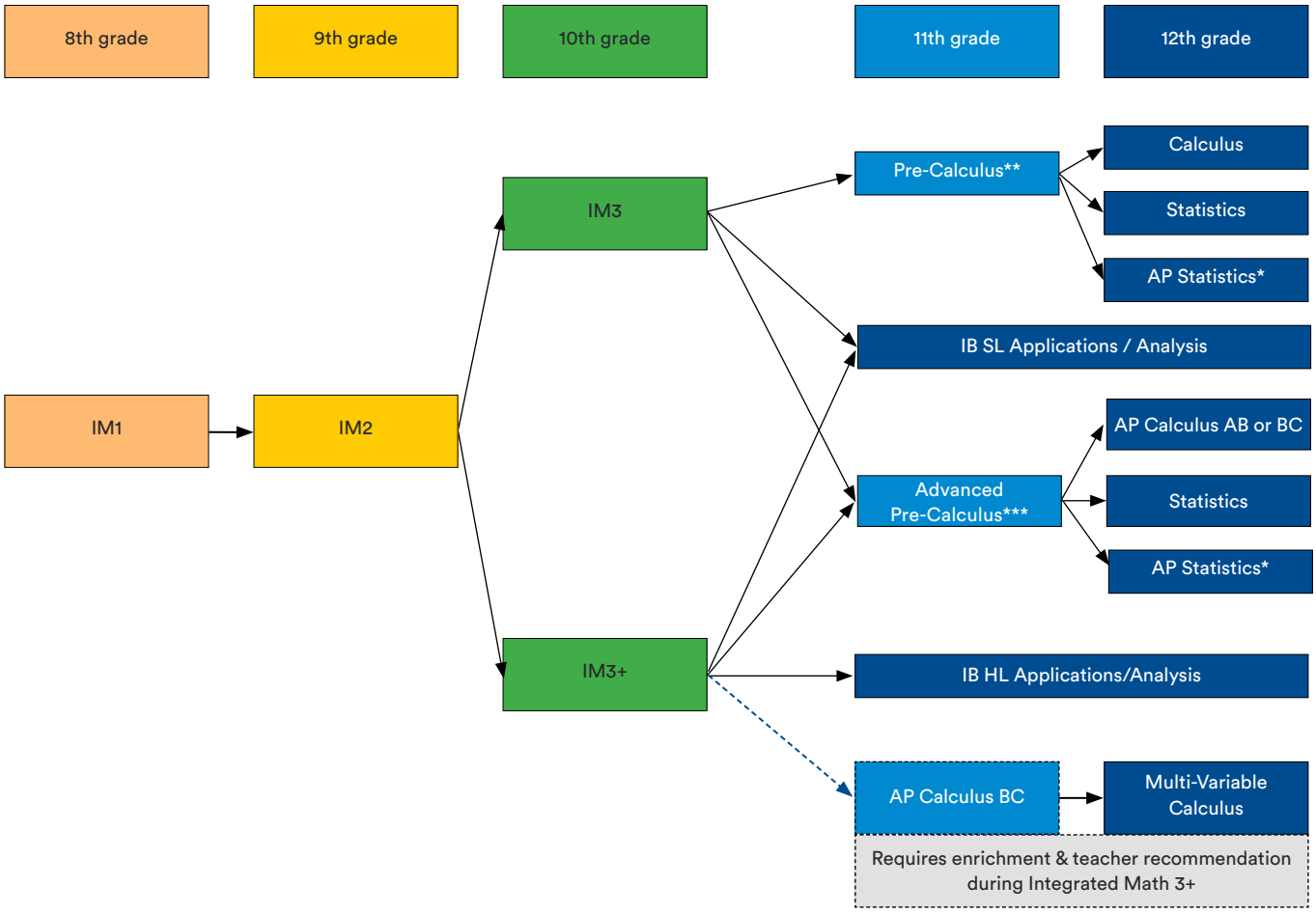
AP English Literature & Composition

Course Code: HS1201
Duration: Year
Prerequisites: English 10
Credits: 1.0

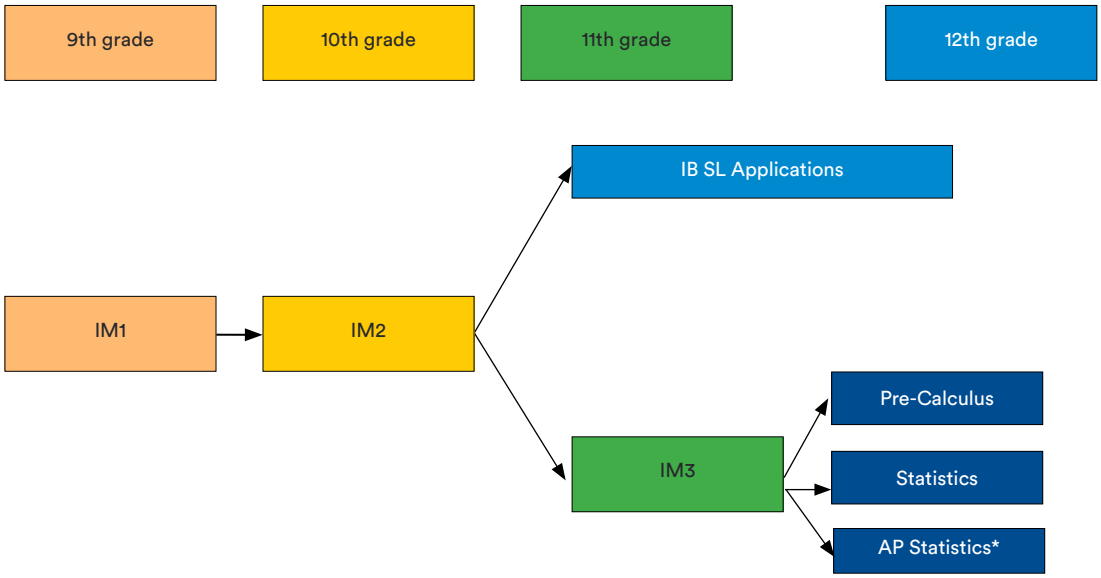
The AP English Literature and Composition course will engage students in the careful reading and critical analysis of imaginative literature. Through the close reading of selected texts, students will deepen their understanding of the ways writers use language to provide meaning and pleasure as well as such smaller scale elements as the use of figurative language, imagery, symbolism, and tone. The course will include intensive study of representative works from various genres and periods, concentrating on works of recognized literary merit. In addition to considering a work's literary artistry, the students will confront the author's explicit or implicit teaching about life. Writing will be an integral part of the AP English Literature and Composition course, focusing on the critical analysis of literature and will include expository, analytical, and argumentative essays. All students enrolled must sit the College Board exam in May.

MATHEMATICS COURSES

Mathematics Department Flow Chart



Students entering IM1 in 9th grade (from CC8 or external students)



* AP Statistics can be dual enrolled in either 11th and 12th grade

** Standards and Curriculum of Pre-Calculus class are the same as the IB SL Applications class

*** Standards and curriculum of Advanced Pre-Calculus class are the same as the IB SL Analysis class

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 I 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. Finally, introductory instruction in the area of mathematical probability is provided to reinforce use of fractions and numerical modeling. 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 (Not 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 progres-sion 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 of irrational and imaginary numbers. An introduction to proofs includes but is not limited to trigonometric identities, similar-ity and circle theorems. 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, analysis of conic sections, 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 (Not CAS version).

Integrated Math 3 (IM3)

Course Code: HS3207
Duration: Year
Prerequisites: 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, 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 with emphasis on statistical inference and using data for mathematical modeling. A main focus of this course is the application of main ideas in new and different contextual situations.

Integrated Math 3 Plus (IM3+)

Course Code: HS3208
Duration: Year
Prerequisites: 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 with emphasis on statistical inference and using data for mathematical modeling. A 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 (composite, inverse and logarithmic functions), advanced trigonometry, complex functions and an introduction to vectors.

Pre-Calculus

Course Code: HS3004
Duration: Year
Prerequisites: Algebra 2 or Algebra 2/Trigonometry
Credits: 1.0

The major focus of this course is on functions. Topics covered include relations, functions and their graphs, polynomials, right triangle trigonometry, laws of sine/cosine, trigonometric identities, graphing of sine and cosine functions, advanced functions and conics. This course is designed for students with gaps in Algebra and prepares them for Calculus. Students are required to purchase a TI 84+ calculator.

Advanced Pre-Calculus

Course Code: HS3005
Duration: Year
Prerequisites: Algebra 2/Trigonometry
Credits: 1.0

This course expands on topics introduced in Algebra 2/Trigonometry and introduces topics needed for further study of mathematics in AP Calculus or in IB Math HL. Advanced Pre-Calculus is recommended for students who are above average in mathematics ability. Topics of study include relations, advanced functions and graphs, trigonometry, vector and parametric equations, sequences and series, combinatorics and probability, and conics. Time permitting, polar coordinates and complex numbers will also be studied. Attention will be given to applying the above concepts to real-world problems. Students are required to purchase a TI 84+ calculator.

Calculus

Course Code: HS3006
Duration: Year
Prerequisites: Core 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 84+ calculator.

IB Mathematics: Application and Interpretation SL Y1-Y2

Course Codes: HS3110 (Y1), HS3123 (Y2)
Duration: Two years
Prerequisites: IM2
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 84+ calculator.

IB Mathematics: Application and Interpretation HL Y1-Y2

Course Codes: HS3133 (Y1), HS3143 (Y2)
Duration: Two years
Prerequisites: IM3+
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 describe in SL, the HL course include logarithms, complex numbers, polar form, matrices, composite functions, and vectors. This course will also explore differentiation, integration and statistics to a much greater depth than the SL 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 very good study habits. Students are required to purchase a
TI 84+ calculator.

IB Mathematics: Analysis and Approaches SL Y1-Y2

Course Codes: HS3114 (Y1), HS3124(Y2)
Duration: Two years
Prerequisites: IM3/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, economics 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 84+ calculator.

IB Mathematics: Analysis and Approaches HL Y1-Y2

Course Codes: HS3134 (Y1), HS3144(Y2)
Duration: Two years
Prerequisites: IM3+
Credits: 2.0

This course is designed for students with a strong background in mathematics and interest in perusing university studies in technology, mathematics or the physical sciences. In addition to the topics describe in SL, the HL course includes complex numbers, polar form, and vectors. This course will also explore functions, differentiation, integration and statistics to a much greater depth than the SL 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 very good study habits. Students are required to purchase a TI 84+ calculator.

AP Calculus AB

Course Code: HS3200
Duration: Year
Prerequisites: Core Pre-Calculus or Advanced 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. All students enrolled in an AP subject must sit the external exam at the end of the school year.

AP Calculus BC

Course Code: HS3201
Duration: Year
Prerequisites: Advanced Pre-Calculus or AP Calculus AB
Credits: 1.0

This course is an accelerated version of AP Calculus AB to allow completion of the BC syllabus in one 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, Hospital's rule, analysis of planar curves, polynomial approximations and series, and parametric, polar, and vector functions. The offering of this course is subject to enrollment. Students are required to purchase a TI 84+ calculator. All students enrolled in an AP subject must sit the external exam at the end of the school year.

AP Statistics

Course Code: HS3202
Duration: Year
Prerequisites: Student must be at least grade 11 and have completed Algebra 2.
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 84+ calculator. All students enrolled in an AP subject must sit the external exam at the end of the school year.

Statistical Mathematics

Course Code: HS3007
Duration: Year
Prerequisites: Student must be at least grade 11 and have completed Algebra 2.
Credits: 1.0

Statistics is a practical hands-on approach to statistical thinking and decision making. The course is focused on the ways that we collect data as well as the analysis and interpretation of data in the real world. Students taking this course will become more discerning consumers of statistics as they interpret everything from surveys, election polls and medical studies. Topics of this course will include sampling, surveys, experimental design, organizing data, distributions, probability, and inference.

Students are required to have a TI-84 calculator.

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.

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:

- US History
- AP Capstone Seminar: Social Studies
- AP US History

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

- AP Psychology
- IB Psychology HL/SL (two-year course)
- AP Comparative Government & Politics
- Sociology
- IB Global Politics HL/SL (two-year course)
- Applied Economics & Business
- AP Economics
- IB Economics HL/SL (two-year course)
- * IB Business & Management HL/SL (two-year course)
- Modern World History
- AP US History
- AP European History
- IB History SL/HL (two-year course)
- AP Capstone Seminar: Social Studies
- IB Environmental Systems & Society SL (two-year course) 1 credit Science 1 credit Social Studies
- * IB Philosophy SL (two-year course)
- * IB Info. Technology in a Global Society HL/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 Asia. By emphasizing writing development, research skills, and the analysis of historical sources and documents, students will be provided with the skills needed for a successful transition to the 10th grade. We will use the categories of politics, economics and social organization to learn content knowledge.

US History

Course Code: HS2002
Duration: Year
Prerequisites: Asian History
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.

Modern World History

Course Code: HS2001
Duration: Year
Prerequisites: Grade 11 or Grade 12
Credits: 1.0

Modern World History will focus on gaining an understanding of how the world of today was shaped by ideas, people and events in the past. It will cover the period from the Industrial Revolution through Decolonization and Independence movements. The class is built around a variety of activities that require research, writing and critical thinking. Students are encouraged to develop their skills as a historian such as research, analysis, and forming arguments. It is hoped that students will develop a continuing love for the study of history, as this course will prepare students for further study in this subject.

Sociology

Course Code: HS2009
Duration: Year
Prerequisites: Grade 11 or Grade 12
Credits: 1.0

This year-long elective 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: Grade 11 or Grade 12
Credits: 1.0

Applied Economics & Business is a hands-on, experiential course which requires active, consistent class participation. Students will work in groups and individually, and technology will be used on a regular basis. Students will gain a firm foundation in business terminology, practices, and entrepreneurial skills by creating, managing, and marketing products and services of their own design. In each semester students will focus on the core elements of business, including finance and accounting, marketing, human resources, and strategy. They will focus on these areas as part of developing a new idea for an entrepreneurial venture.

IB History SL/HL Y1-Y2

Course Codes: HS2111 (SL Y1), HS2121 (SI Y2); HS2131 (HL Y1); HS2141 (HL Y2)
Duration: Two years
Prerequisites: Grade 11 or Grade 12
Credits: 2.0

This is a world history course, based on a comparative and multi-perspective approach to history, with the emphasis on the 20th century. We study a variety of types of history, including political, economic, social, and cultural. The course emphasizes that students think historically, develop skills of critical thinking, and develop an understanding of multiple interpretations of history. Both HL and SL students investigate Europe between two world wars, how World War II developed into a global conflict, the Cold War super- power tensions and rivalries, either Causes and Effects of Wars or 20th century Authoritarian States, and one other topic.

Higher Level Coursework: Students will also conduct their own independent historical investigation on a topic about which they feel passionate.

IB Philosophy SL Y1-Y2

Course Codes: HS2145 (Y1), HS2146 (Y2)
Duration: Two years

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Prerequisites: Grade 11 or Grade 12
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. Registration priority will be given to IB Diploma students. For more information visit: http://www.pamojaeducation.com/IB-online-courses/

IB Environmental Systems & Society SL 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 award 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: Grade 11 or Grade 12
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 reveal 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: Grade 11 or Grade 12
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, international trade, and economic development. 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 major area of study, Theory of the Firm, which many students find challenging. HL students also learn the basic mathematical calculations (Algebra 1 level of difficulty) related to the economic theories we study.

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: Grade 11 or Grade 12
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 also invites comparison between such examples and case studies to ensure a transnational perspective.

IB Business Management SL/HL Y1-Y2

Course Codes: HS2117 (SL Y1), HS2127 (Sl Y2); HS2137 (HL Y1); HS2147 (HL Y2)
Duration: Two years
Prerequisites: Grade 11 or Grade 12
Credits: 2.0

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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/

Higher Level Coursework: Each of the above units contain HL extension topics.

IB Information Technology in a Global Society SL/HL Y1-Y2

Course Codes: HS2110 (SL Y1), HS2120 (SL Y2); HL HS2130 (HL Y1); HS2140 (HL Y2)
Duration: Two years
Prerequisites: Grade 11 or Grade 12
Credits: 2.0

Information Technology in a Global Society looks at technological innovations and their social and ethical impact on the world today. It is focused on three main strands:

- Social and ethical significance
- Application to specified scenarios
- IT systems

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

Higher Level Coursework: The HL course covers 3 extension topics: IT systems in organizations; Robotics, artificial intelligence and expert systems; Information systems. It also requires the study of an annually issued case study.

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AP Capstone Seminar: Social Studies

Course Code: HS2208
Duration: Year
Prerequisites: Grade 10 or Grade 11
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. All students enrolled in an AP subject must sit the external exam at the end of the school year.

AP European History

Course Code: HS2201
Duration: Year
Prerequisites: Grade 11 or Grade 12
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: Asian History
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 requries a great deal of self-motivation and independent learning. Thematically, the course will address the major historical and political questions of United States history. All students enrolled in an AP subject must sit the external exam at the end of the school year.

AP Psychology

Course Code: HS2203
Duration: Year
Prerequisites: Grade 11 or Grade 12
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. All students enrolled in an AP subject must sit the external exam at the end of the school year.

AP Economics

Course Code: HS2204
Duration: Year
Prerequisites: Grade 11 or Grade 12
Credits: 1.0

Advanced Placement Economics encompasses two full AP courses taken in succession: AP Microeconomics and AP Macroeconomics. The purpose of the course is to introduce students to economics – the study of how to best allocate scarce resources among unlimited wants. This rigorous course is taught at the college level; student's study habits and participation should reflect this. On average the course will cover one chapter from the textbook per week and it is expected that students complete and comprehend the content within the assigned time frame. Due to the college level content

of this course it is taught at a fast pace, and students must be prepared for this. It is hoped that knowledge of economics will enhance students' perceptions of the world, and give them insights into people's behavior and decisions.

AP Microeconomics is focused on the principles of economics that apply to the functions of individual decision makers, both consumers and producers, within the economic system. It places primary emphasis on the nature and functions of product markets, and includes the study of factor markets and of the role of government in promoting greater efficiency and equity in the economy.

AP Macroeconomics is focused on the principles of economics that apply to an economic system as a whole. Emphasis is placed on the study of national income and price-level determination, along with economic performance measures, the financial sector, stabilization policies, economic growth, and international economics. All students enrolled in an AP subject must sit the external exam at the end of the school year.

AP Comparative Government & Politics

Course Code: HS2205
Duration: Year
Prerequisites: Grade 11 or Grade 12
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. Six countries — Great Britain, Russia, China, Mexico, Iran, and Nigeria — form the core of the AP Comparative Government and Politics course. They are taught because they provide a foundation for developing an understanding of different types of political systems. The course is approached through the following six topics: methods of comparison; sovereignty, authority and power; political institutions; citizens, society, and the state; political and economic change; and public policy. All students enrolled in an AP subject must sit the external exam at the end of the school year. This course will be offered every other year and depending on enrollment.

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)
- **Independent Research & Design**
- **IB Biology SL/HL** (two-year course)
- **IB Chemistry SL/HL** (two-year course)
- **IB Environmental Systems & Society SL** (two-year course) 1 credit Science 1 credit Social Studies
- **IB Sports, Exercise, & Health Science SL/HL** (two-year course) 1 credit - Science 1 credit Elective
- **AP Chemistry**

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

- **AP Physics 1**
- **Earth & Space Science***
- **AP Biology**
- **Chemistry**
- **AP Physics C**
- **Independent Research & Design**
- **IB Environmental Systems & Society SL Y1** (if Science graduation requirements have already been met)
- **AP Chemistry**

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: Ecology, Evolution, Structure and Function, Genetics.

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 Lab Science course focuses on the use of science and engineering practices to develop conceptual understandings in the earth and space sciences. 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 an earth and/or space science conceptual focus.

Independent Research & Design

Course Code: HS4207
Duration: Year
Prerequisites: Grade 11 student enrolled in another science course or a grade 12 student
Credits: 1.0

This course offers students of all levels an opportunity to perform authentic, science-focused research and design. Independent Research and Design reinforces and integrates skills learned in previous courses. This course provides students the opportunity explore topics of personal interest and is intended to stimulate students' ingenuity, curiosity, and intellectual talents. The students will use the scientific method and engineering design cycle to investigate, design, plan, and implement multiple and diverse research or design projects. This course fosters awareness of the social and ethical implications of scientific and technological developments.

IB Environmental Systems & Society SL 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. 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 award 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. 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.

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 subject specific core topics of: cell biology, molecular biology, genetics, ecology, evolution and human physiology plus one option chosen by the teacher. Options are selected from Neurobiology and Behavior, Biotechnology and Bioinformatics, Ecology and Conservation, and Human Physiology. All students will complete an independent laboratory investigation as their internal assessment.

Higher Level Coursework: Additional higher-level material includes further Nucleic Acids, Metabolism: Cell Respiration and Photosynthesis, Plant Biology, Genetics and Evolution, and Animal Physiology.

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 Chemistry is a group 4 experimental science that is separated into two levels, Standard (SL) and Higher (HL). Both levels share a common subject specific curriculum and a Group 4 project. The subject specific curriculum includes; Atomic theory, Periodic trends, Chemical bonding, Stoichiometry, Thermochemistry, Kinetics, Equilibrium, Acids and bases, Organic chemistry, Reduction and oxidation, Uncertainty in measurement and one "Option" which includes Materials, Energy, Biochemistry and Medicinal chemistry. The above curriculum will be taught using a variety of teaching methods including application of laboratory skills. In year two, the students will be using those laboratory skills as they conduct their own individual investigation called an internal assessment which will be externally assessed. The purpose of IB Chemistry is to engage students in the study of matter and how it changes and interacts with other matter. Students will see how Chemistry is called the central science because it has connections will all other areas of science.

Higher Level Coursework: The HL course will go into more depth and more rigor in each topic. Students in HL will be learning an additional 60 hours in all of the above subject specific curriculum except for stoichiometry. Students should expect more class time hours, and will also spend more time on homework. Additional HL material includes a more detailed and in-depth study of the special core topics.

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; It is also strongly recommended that students have completed Algebra 2/Trigonometry.
Credits: 2.0

IB Physics Standard Level is designed for students who want an introduction of a wide variety of general physics topics over a two-year period. In the first year, the topics of measurement, errors, mechanics, waves, thermal physics, and energy, power, and an introduction to electricity will be covered. In the second year, electrical circuits, electromagnetism, atomic, nuclear and particle physics will be studied. An additional topic to study (Option) will be selected from relativity, engineering physics, imaging and astrophysics. Mathematical competence is essential for success in this course, although it is not essential to be enrolled in calculus or HL math courses.

Higher Level Coursework: IB Physics Higher Level (HL) is designed for students who want a greater depth and breadth of study in physics. IBO prescribes a minimum of 240 hours for this course. The first year of the HL course will cover topics from the common subject specific core and a Group 4 project. In the first year the topics of measurement, errors, mechanics, waves, thermal physics, and energy, power, and an introduction to electricity will be covered. In the second year, electrical circuits, electromagnetism, atomic, nuclear and particle physics will be studied, along with a revisit of first year topics through a more in-depth treatment beyond the SL. An additional topic to study (Option) will be selected from relativity, engineering physics, imaging and astrophysics.

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. Every student enrolled in this course must sit the external exam at the end of the year.

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

AP Physics 1

Course Code: HS4210
Duration: Year
Prerequisites: Successful completion of Algebra II with trigonometry and Biology Lab Science
Credits: 1.0

The 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, mechanical waves and sound. It also introduces electric circuits. 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. This course is also the prerequisite for AP Physics C. All students enrolled in an AP Subject must sit the external exam at the end of the school year.

AP Physics C: Mechanics, Electricity & Magnetism

Course Code: HS4206
Duration: Year
Prerequisites: Completion Physics 1 and enrollment or completion of AP Calculus or IB Math HL. In addition, strong recommendations are required from both the Mathematics and Science department teachers.
Credits: 1.0

Although AP Calculus or IB Math HL can be taken concurrently, success in AP Physics C requires a strong background in Calculus.

This yearlong course models the initial two semesters of calculus-based university physics required for science and engineering majors. Topics of study from Newtonian mechanics include:

- kinematics
- force, work, and energy
- systems of particles
- circular motion and rotation
- oscillations and gravitation

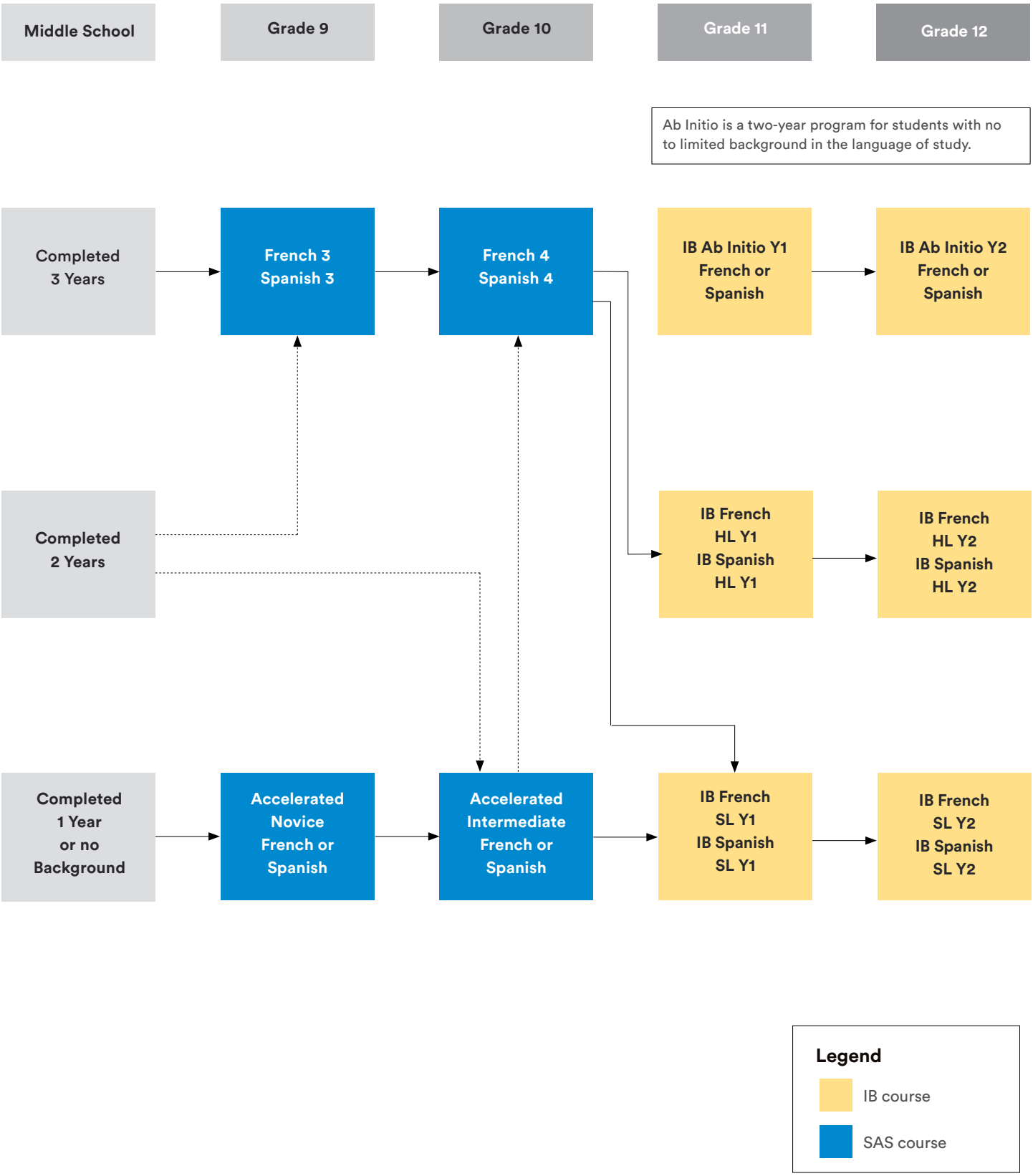
Electricity and Magnetism topics of study include:

- electrostatics
- conductors, capacitors, and dielectrics
- electric circuits
- magnetic fields
- electromagnetism

All students enrolled in this AP subject must sit both external exams at the end of the school year.

GLOBAL LANGUAGES COURSES

Global Languages Department Flow Chart



Accelerated Novice French

Course Code: HS5052
Duration: Year
Prerequisites: None
Credits: 1.0

This course is for complete beginners and is fast paced, covering 3 semesters in two. Students will be introduced to vocabulary, grammar and culture across a wide range of familiar topics designed to quickly build their capacity. By the end of the course students will be able to hold a 5-minute conversation and write a 100-word text. Students will also be able to understand audio and written texts on familiar topics. Students will also be able to communicate in the past, present and future.

Because of the fast pace of this subject, you will need to spend substantial time learning new vocabulary.

Accelerated Intermediate French

Course Code: HS5053
Duration: Year
Prerequisites: Accelerated Novice French or teacher recommendation
Credits: 1.0

This course is for those who have studied Accelerated Novice French or done at least 2 years in the Middle-School program. It is a fast-paced course designed to cover 3 semesters in two. Students will deepen their knowledge of vocabulary, grammar and culture and extend the range of tenses in which you can communicate. Stdents will begin to explore more abstract topics and themes in preparation for further study at IB level.

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

French 3

Course Code: HS5003
Duration: Year
Prerequisites: Accelerated Intermediate French or teacher recommendation
Credits: 1.0

The third year of French consolidates and reviews the skills, grammar and vocabulary learned up to this point, with a greater emphasis on language register and style, in a range of familiar and unfamiliar contexts. This course covers the remaining tenses and more complex grammatical patterns. It is also a continued study of Francophone cultures and basic French literature. 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 or debates and write a minimum of 150 words for different purposes. Students will be assessed regularly with quizzes and tests, projects, reading and visual comprehension tasks, written compositions, oral presentations and conversations. Students completing this year will be able to go on to French IV or year one of IB French, Standard Level (or Higher level on teacher recommendation).

French 4

Course Code: HS5004
Duration: Year
Prerequisites: French 3 or teacher placement
Credits: 1.0

This high intermediate course aims at developing the autonomy of students by extending the skills, grammar and vocabulary learned previously. It focuses on the consolidation of receptive, productive and interactive skills. It extends the intercultural competency through an exploration of Francophone cultures and French literature. The course uses a range of authentic resources (texts, interactive websites, songs, movies, etc.) in order 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 proficient communicators, who are able to understand and fluently 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 completing this course will be eligible to move into Year 1 of IB French B 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: French 3, French 4, Accelerated Intermediate French as a prerequisite (for SL only) or teacher recommendation
Credits: 2.0

French 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 French 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 French language and Francophone cultures. At both levels of language B (SL and HL), students learn to communicate in French 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. French B provides students with a basis for further study, work and leisure through the use of 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. 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 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 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 IB 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 students' 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 into three themes: individual and society, leisure and work, and urban and rural environment.

Accelerated Novice Spanish

Course Code: HS5050
Duration: Year
Credits: 1.0

This course is for complete beginners and is fast paced, covering 3 semesters in two. Students will be introduced to vocabulary, grammar and culture across a wide range of familiar topics designed to quickly build their capacity. By the end of the course students will be able to hold a 5-minute conversation and write a 100-word text. Students will also be able to understand audio and written texts on familiar topics. Students will be able to communicate in the past, present and future.

Because of the fast pace of this subject, students will need to spend substantial time learning new vocabulary.

Accelerated Intermediate Spanish

Course Code: HS5051
Duration: Year
Prerequisites: Accelerated Novice Spanish or teacher recommendation
Credits: 1.0

This course is for those who have studied Accelerated Novice Spanish or done at least 2 years in the Middle-School program. It is a fast-paced course designed to cover 3 semesters in two. Students will deepen their knowledge of vocabulary, grammar and culture and extend the range of tenses in which they can communicate. Students will begin to explore more abstract topics and themes in preparation for further study at IB level.

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

Spanish 3

Course Codes: HS5007
Duration: Year
Prerequisites: Accelerated Intermediate Spanish or teacher recommendation
Credits: 1.0

This course consolidates content and grammar taught in previous levels and extends the range of tenses and other aspects of Spanish grammar leading to a more in-depth appreciation of Hispanic culture. By the end of the course, students will have read a short story and be able to hold a 7-minute conversation and write a minimum of 150 words on a familiar topic. They will also be able to understand more complex audio files and written texts.

Students completing this year will be able to go on to Spanish 4 or year one of IB Spanish Standard Level (or higher level on teacher recommendation).

Spanish 4

Course Code: HS5008
Duration: Year
Prerequisites: Spanish 3 or teacher recommendation
Credits: 1.0

This is a course aimed to preparing students for the IB program. Therefore, the course will be designed into thematic units, each one with its own vocabulary and a mini-lesson on grammar. Students' participation is expected. The course will include a reading and writing component in order to facilitate students' growth in the language. Students completing this course will be eligible to move into Year 1 of IB Spanish B Higher Level.

IB Spanish Ab Initio SL Y1-Y2

Course Codes: HS5155 (Y1), HS5156 (Y2)
Duration: Two years
Prerequisites: None
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 IB 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 into three themes: individual and society, leisure and work, and urban and rural environment.

IB Spanish B SL/HL Y1-Y2

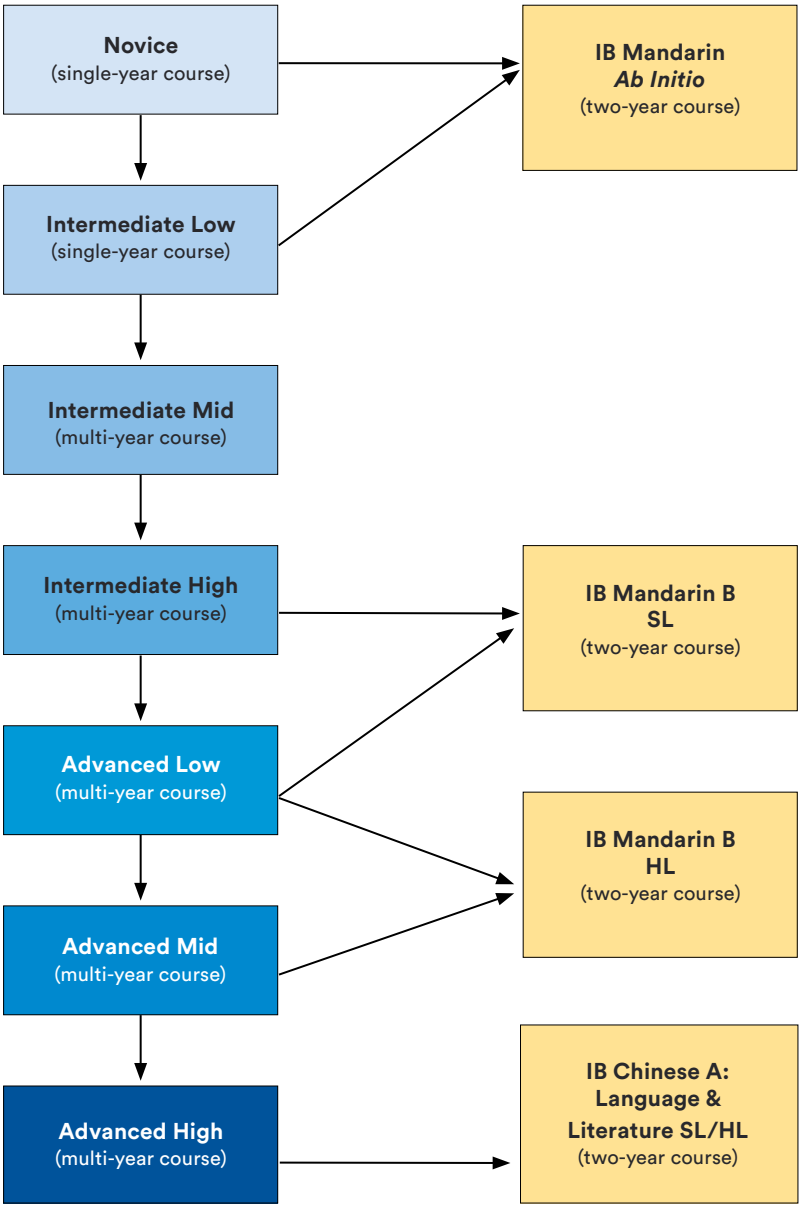
Course Codes: HS5111 (SL Y1); HS5121 (SL Y2); HS5131 (HL Y1); HS5141 (HL Y2)
Duration: Two years
Prerequisites: Spanish 3, Spanish 4, Accelerated Intermediate Spanish as a prerequisite (for SL only) or teacher recommendation
Credits: 2.0

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 through the use of 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. 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.

CHINESE LANGUAGE COURSES

Chinese Department Flow Chart

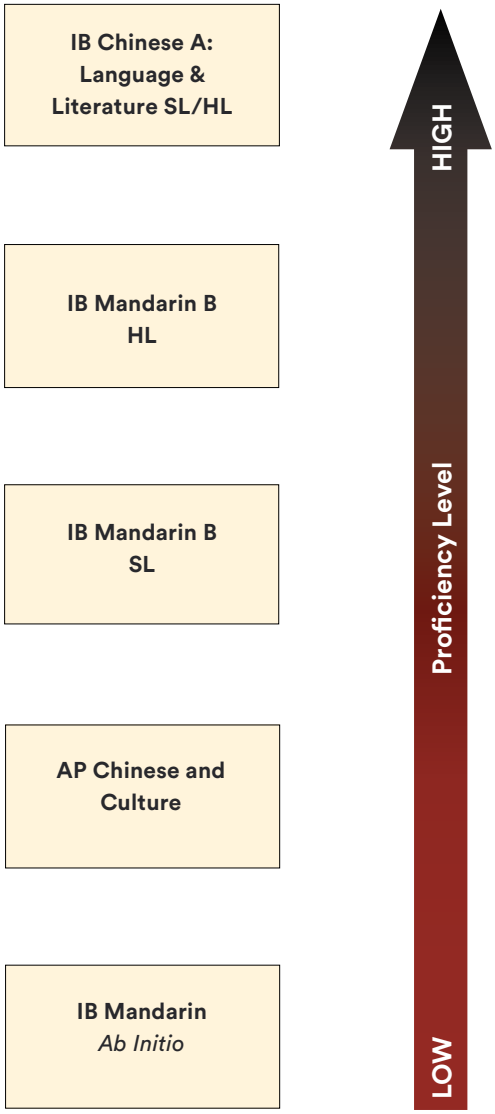


Note: Full IB Diploma students will be recommended for placement into Mandarin B or Chinese A depending on their proficiency level. Students may then choose between taking their recommended course at the standard or higher level.

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 Mid to 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 Chinese 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

Reading comprehension for class placement is measured through Level Chinese assessments. Level Chinese offers assessment as well as support for reading from Level C, a very basic text of foundational literacy to Level T, which provides the foundation for Advanced High levels of courses as well as for the 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**

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.

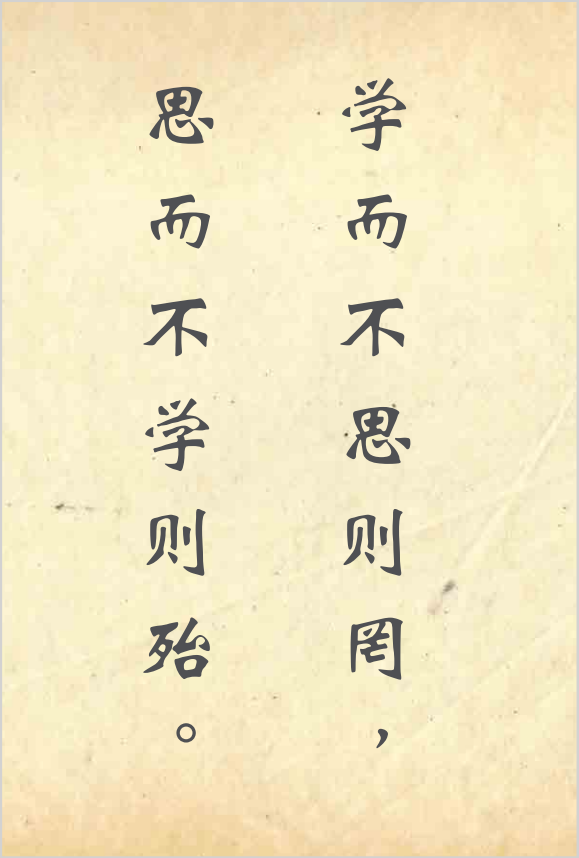
Reading: Students can independently read text as assessed by Level C in Level Chinese. This means that a student can use reading strategies such as reference to images, contextual clues, radicals and familiar characters to figure out the meaning of basic text.

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 independently read text as assessed by Level F in Level Chinese. This means that a student 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: Multi-year Course
Prerequisites: Successful demonstration of the skills of the Intermediate Low course
Credits: 1.0

This multi-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 text as assessed by Level I in Level Chinese. This means that a student 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: HS5027
Duration: Multi-year Course
Prerequisites: Successful demonstration of the skills of the Intermediate Mid course
Credits: 1.0

This multi-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 text as assessed by Level M in Level Chinese. This means that a student 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: Multi-year Course
Prerequisites: Successful demonstration of the skills of the Intermediate High course
Credits: 1.0

This multi-year course is designed to enable students to emerge with conversation and literacy at an academic level. Successful completion of this course means that students will be able to demonstrate mastery of the following skills:

Oral language: Advanced Low oral proficiency as demonstrated by ACTFL standards. This means that a student can maintain a prolonged conversation on a few academic topics in a way that demonstrates high levels of accuracy, development of thought, and precision of vocabulary appropriate to the topic at hand.

Reading: Students can independently read text as assessed by Level Q in Level Chinese. This means that a student can independently read a variety of books containing prolonged text of multiple paragraphs with little support of images or contextual clues.

Writing: Students can independently write a series of paragraphs to narrate, inform and state opinion. The text has detail and examples related to the topics. There is some formality of vocabulary.

Advanced Mid Chinese

Course Code: HS5032
Duration: Multi-year Course
Prerequisites: Successful demonstration of the skills of the Advanced Low course
Credits: 1.0

This multi-year course is designed to enable students to discuss and engage with a wide variety of academic and literary text. Successful completion of this course means that students will be able to demonstrate mastery of the following skills:

Oral language: Advanced Mid oral proficiency according to ACTFL standards. This means that a student can maintain a prolonged and sophisticated conversation on a wide variety of academic topics in a way that demonstrates high levels of accuracy, critical thinking, cultural understanding and precision of vocabulary appropriate to the topic at hand.

Reading: Students can independently read text as assessed by Level T in Level Chinese. This means that a student can independently read a variety of books of emerging literary interest and differing styles.

Writing: Students can independently narrate, inform or state opinion in writing with specific detail, formality of vocabulary and clear organization.

Advanced High Chinese

Course Code: HS5029
Duration: Multi-year Course
Prerequisites: Successful demonstration of the skills of the Advanced Mid course
Credits: 1.0

This multi-year course enables students to engage in literary analysis across a variety of genres. Successful completion of this course means that students will be able to demonstrate mastery of the following skills:

Oral language: Students demonstrate Advanced High oral proficiency according to ACTFL standards. This means that a student can engage in prolonged philosophical conversations that demonstrate original connections with literature, history and current events in a nuanced and culturally sensitive manner.

Reading: Students can engage in literary analysis across a variety of genres.

Writing: Students can narrate, inform or persuade in clearly organized discourse with use of rhetorical questions, quotes, specific details, and use of formal and literary language.

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 AbInitio.
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.

B 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.

VISUAL ARTS COURSES

Visual Arts Department Flow Chart

Grade 9 students may take:

- Art Lab
- Art Coded

Innovation Institute students will take:

- Creativity & Design (Grade 9)

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

- Art Lab
- Art Coded
- Intermediate Art Studio

Innovation Institute students will take:

- Innovation & Design (Grade 10)

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

- Art Lab
- Art Coded
- 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. Artlab 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. Artlab: Imagine. Craft. Build.

Art Coded

Course Code: HS6050
Duration: Year
Prerequisites: one previous art course
Credits: 1.0

Learn how to integrate computers, electronics, motors, LEDs and code to create interactive art projects. This course will utilize the tools in the MakerSpace and Fablab and a variety of electromechanical and software devices to create works of art. Not only will students be learning how to code and use circuits, they will also be developing their art skills by using a variety of traditional and nontraditional medium. Each project created in this class will be developed utilizing a sketchbook to develop an artist process. The projects will have specific goals and objectives to include specific concepts as students obtain more skills; however all projects will allow individual creativity to interpret the project where the student's inspiration leads.

Creativity & Design

Course Code: HS6050
Duration: Year
Prerequisites: This course is only open to Innovation Institute Grade 9 students.
Credits: 1.0

This course is intended for Grade 9 students in the Innovation Institute program who want to learn the necessary tools that develop creative thinking. In this course we will examine where creativity comes from, how to create conceptual iterations of ideas and how to apply these processes towards a variety of interdisciplinary projects and challenges. Students will learn to analyze and deconstruct complex ideas and images in art, design, and media. Through various digital and traditional media projects, students will learn ways to improve creativity, critical thinking, communication, collaboration, time management, traditional media, digital and design skills.

Innovation & Design

Course Code: HS6051
Duration: Year
Prerequisites: This course is only open to Innovation Institute Grade 10 students.
Credits: 1.0

This course allows Grade 10 students in the Innovation Institute program to build on skills developed in Creativity and Design and introduces them to new forms of contemporary media and art making. Students will analyze contemporary media and develop the skills to create effective forms of communication in both still (photography, graphic design) and moving images. Students will consider the importance of the integration of arts into STEM disciplines through design and creative thinking, in order to improve functionality and communication of meaning. To this end, students will learn how to build and test electronic circuits and create controllable electromechanical devices.

Intermediate Art Studio

Course Code: HS6207
Duration: Year
Prerequisites: Art Foundation or Creativity & Design or permission from the teacher
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 2-D and 3-D 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: Two years of art courses
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: 1.0

IB Visual Art is intended for students who have a serious interest in the visual arts, and possess a high level of commitment to studio and written work. This two-year course requires students to investigate theoretical, art making, and curatorial practices. In order to be successful, students are expected to create an in-depth and personal body of work developed through an independent exploration of artists, ideas, materials and techniques. Students will generate and refine their ideas through the use of visual journals called a Process Portfolio. These journals require a dedication to and documentation of personal research and the exploration of media, technical skills, and the analysis of thematic, cultural, historical, aesthetic issues related to art. IB art students are also expected to create a comparative study in which they analyze, compare, and contrast works by self-selected artists. This research should impact on the student's development as an artist, as well as their art making practices.

This course of study ends with the completion of a written final comparative study, a written process portfolio and an individual exhibition in which students produce and curate a body of work completed over the two years. The work is examined externally by IB.

Please see below for requirements.

Standard Level Coursework:
Process Portfolio: SL students submit 9–18 screens which document their creative process.

Comparative Study: SL students will submit 10–15 screens which examine and compare at least three artworks.

Final Exhibition: SL students will exhibit 4-7 final pieces.

Higher Level Coursework:
Process Portfolio: HL students submit 13–25 screens which document their creative process.

Comparative Study: HL students submit 10–15 screens which examine and compare at least three artworks. HL students submit 3–5 additional screens which analyze the extent to which their work and practices have been influenced by the art and artists examined.

Final Exhibition: HL students will exhibit 8-11 final pieces.

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, we will be working towards three different assessments in year two. These include a close textual analysis of a film, a comparative study of two films in a topic of your choosing, a production portfolio of your work in different film roles.

Higher Level Coursework: In HL, we will be working towards four different assessments in year two. These include a close textual analysis of a film, a comparative study of two films in a topic of your choosing, a production portfolio of your work in different film roles, and a collaborative final film.

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 1
- Guitar 1
- Combat, Masks and Movement
- Dance 1-2 (semester course)
- Acting for Stage
- Music Theory, Composition & Technology

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

- Theatre Making and Directing
- Combat, Masks and Movement (semester course)
- Acting for the Stage (semester course)
- Audio Production (semester course)
- Concert Choir 1
- Concert Choir 2
- Concert Band 1
- Concert Band 2
- Music Theory, Composition & Technology
- Orchestra 1
- Orchestra 2
- Guitar 1
- Guitar 2
- Dance 1-2

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)

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 1
Course Code: HS6024
Duration: Year
Prerequisites: One year experience or permission of teacher required. Orchestra 1 can be taken more than once.
Credits: 1.0
Orchestra 1 is open to experienced string players who wish to gain ensemble experience in different styles of music. Orchestra 1 generally comprises Grade 9 and 10 students.

Orchestra 2
Course Code: HS6025
Duration: Year
Prerequisites: Teacher placement. Orchestra 2 can be taken more than once.
Credits: 1.0
Orchestra 2 is the advanced String Orchestra of the school and entry is by audition open to all experienced violin, viola, cello, and double bass players. Specific instrumental techniques, ensemble skills, theoretical literacy, and historical awareness will be developed through the performance of a variety of orchestral literature from the Renaissance to the present. This ensemble will build on previous Orchestra I experience or demonstration of fifth position proficiency. Students should be able to demonstrate a variety of “off the string” bow strokes.

Music Theory, Composition & Technology
Course Code: HS6025
Duration: Year
Prerequisites: Teacher placement. Orchestra 2 can be taken more than once.
Credits: 1.0
Students will examine the underlying principles of music theory and composition as they explore tech resources used to create, evaluate, arrange and perform music. They will apply their knowledge in created or arranging compositions, and perform those compositions. A study of compositional style will connect with theory of music and the socio-cultural influences of that style.

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: None
Credits: 1.0

Over the course of two years, IB Music participants develop a well-rounded base of musical knowledge for comparative analysis, performance, and composition. Students are expected to listen intelligently to a wide variety of musics from around the world and draw logical conclusions about the form, stylistic features, and structural elements. By gaining the technical vocabulary associated with Western Art Music theory, students will be able to analyze any work and make musical connections between different genres of music.

Higher Level coursework: HL students answer a further question on the listening paper and must create and present a solo performance.

Combat, Mask and Movement

Course Code: HS6061
Duration: Semester
Prerequisites: None
Credits:0.5

This course is designed to help students of any level explore theatre through movement and body work. The primary focus will be on the use of mask, stage combat (unarmed and armed), as well as the use of gesture and movement for expression. Through this work students will learn to interpret, analyze, reflect, build communication skills, and perform. All students will have the opportunity to work with scripted and non-scripted theatre forms as they explore the dynamic world of Physical theatre.

Acting for the Stage and Beyond

Course Code: HS6062
Duration: Semester
Prerequisites: None
Credits: 0.5

This course is designed to give students the opportunity to explore some of the different methods used by actors to create believable roles. The primary focus will be on Stanislavski's Acting System, as well as other popular forms of acting. Students will have the opportunity to explore a variety of text as they work with scene partners to develop their acting skills in multiple formats. There will be one public performance as a final assessment of the course.

Theatre Making and Directing

Course Code: HS6063
Duration: Year
Prerequisites: One previous theatre Course
Credits: 1.0

This is a more advanced course for students who are interested in continuing with their theatre education in high school and beyond. The primary focus on this course will be devising and directing plays and there will be considerable emphasis on ensemble work to build and maintain group dynamics. Students will have the opportunity to work with scripted and non-scripted materials to analyze, evaluate and create theatre using various theatrical styles and conventions. There will be a public showcase of student work at the end of the course.

Audio Production

Course Codes: HS6034A (Semester 1); HS6034B (Semester 2)
Duration: Semester
Prerequisites: None
Credits: 0.5

This course will explore the multi-faceted world of the music industry by providing students the basic knowledge, training and technical skills necessary to operate the equipment required to produce a finished audio product in both studio situations and live performance. Through both theory and practice students will learn what it means to produce a variety of styles of music from recording, mastering to publishing and promotion. This course may be repeated for credit.

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 willlearn aspects of dance history as well. Students can take this class as a Performing Arts elective (grades 9–12) or as a Physical Education elective (grades 11–12).

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.

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: Sports League (semester course)

PE 3: Personal Fitness (semester course)

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

PE 3: Lifeguarding (semester course)

Dance 1-2 (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. In accordance with their multiple intelligences, students are offered a variety of means by which to present their knowledge and understanding of course work.

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 adolescence which the students feel are most important to them. Students are surveyed in order to find out what they feel affects them both inside and outside of school to facilitate this. Compulsory drug and alcohol education is then intertwined with their chosen topics, and the program is geared towards their needs to prepare them for Grades 11 & 12, and their college years.

PE 3 – Personal Fitness

Course Code: HS7002
Duration: Semester
Prerequisites: Physical & Health Education 2 or equivalent
Credits: 0.5

This class is designed to help students achieve their goals in sport or advanced fitness. It is based on functional fitness tailored to the specific needs of each student. Training is progressive and includes core, functional, cardio, and sports-specific type training. The course begins with a fitness assessment unit where students will write personal goals for exercise and nutrition. Students will then keep journals as they design and implement their own personal fitness and nutrition plan based on their fitness test results.

Students will explore current topics in weight training and personal fitness and how to apply these to their own personal fitness programs and to the personal training of others. Students will be involved in learning elements of personal training and taking a leadership role with their fitness knowledge.

PE 3 – Sports League

Course Code: HS7003
Duration: Semester
Prerequisites: Physical & Health Education 2 or equivalent
Credits: 0.5

In this class, opportunities are provided for students to experience sport as a player, coach, referee, and organizer. Students are introduced to concepts involved in sports management and tournament organization, while learning about the practical elements and fundamentals of each sport covered. Once the preparation has been done, students periodically organize and run intra-mural tournaments for the lower classmen. These experiences are written up and reflected upon before the group moves on to plan for the next set of intra-mural competitions.

This course is designed to develop not only knowledge and understanding of the intricacies of running sporting events, but also collaborative, organizational and leadership skills. 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.

PE 3 – Swimming & Water Safety Instructor

Course Code: HS7006
Duration: Semester
Prerequisites: Physical & Health Education II or equivalent
The prerequisites for entry in the water safety instructor course are:

- Be at least 16 years of age by the last scheduled session of the instructor course;
- Demonstrate swimming skills consistent with ARC Learn to Swim Level 4, by swimming the following strokes with good form: front crawl, back crawl, breaststroke, elementary backstroke, sidestroke, butterfly, back float 1 minute and tread water for 1 minute. If you are a little weak in your stroke there is time to improved your skills and technique.

Credits: 0.5

This course is designed for students who have completed the PHE graduation requirement and would like to continue to develop their knowledge and skills in swimming and swim instruction. On completion, students will be swimming and water safety instructors. Certification is valid for 2 calendar years and renewable through instructing at least one course per authorized period. To successfully complete the instructor course:

- Successfully complete all practice-teaching assignments.
- Pass 3 preparatory quizzes and the final written exam with a minimum grade of 80 percent.

Students must demonstrate that they are mature and responsible in and around the aquatic environment.

Course Texts: ARC: Water Safety Instructor's Manual and Swimming and Water Safety Book and on-line video material.

PE 3 – Lifeguarding

Course Code: HS7007
Duration: Semester
Prerequisites: Physical & Health Education II or equivalent
Physical & Health Education I & II or equivalent; be at least 15 years of age by the last scheduled session of the course; swim 500 yards continuously as follows: 200 yards front crawl using rhythmic breathing, 100 yards breaststroke and 200 yards of front crawl and/or breaststroke. Swim 20 yards using front crawl or breaststroke, surface dive to a depth of 7-10 feet, retrieve a 10 pounds/4.5 kg object, return to the surface and swim 20 yards back to the starting point with the object within a time of 1:40.00. If you are not swim fit at the start of the course you will have 3 weeks to complete the swimming prerequisite.
Credits: 0.5

The course teaches candidates the skills and knowledge needed to prevent and respond to aquatic emergencies. It will prepare students to recognize and respond quickly and effectively to emergencies, prevent drowning and injuries, and administer first aid, CPR/AED. The course requires a reasonably strong swimming ability equivalent to our middle or upper group levels in swimming in PE.

Students must demonstrate that they are mature and responsible. This course leads to certification for Life-guarding, First Aid and CPR/AED, which is valid for 2 calendar years from the date of course completion.

To successfully complete the lifeguard course the student must: participate in all activities, successfully perform the required skills, complete 6 skill scenarios, pass 3 quizzes and pass the two ARC written exams with a minimum grade of 80 percent or better. Students must also demonstrate that they are mature and responsible in and around the aquatic environment. Course Texts: ARC: Lifeguard Participants Manual.

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 willlearn aspects of dance history as well. Students can take this class as a Performing Arts elective (grades 9–12) or as a Physical Education elective (grades 11–12).

ELECTIVE COURSES

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

- Intro to Physical Computing
- Introduction to Robotics
- Game and App Development
- Project Design
- Web Design and Virtual Reality
- Theory of Knowledge
- AP Computer Science Principles
- AP Computer Science A
- AP Capstone Research
- IB Computer Science SL (two-year course)
- IB Computer Science HL (two-year course)
- IB Sports, Exercise, & Health Science SL/HL (two-year course) 1 credit - Science 1 credit Elective

Legend

- AP course
- IB course
- SAS course

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 1600-word essay & one oral presentation, and take place during the grade 12 semester.

AP Capstone 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. All students enrolled in an AP subject must sit the external exam at the end of the school year.

Intro to Physical Computing

Course Code: HS7018
Duration: Year
Prerequisites: Student must be in grade 11 or 12
Credits: 1.0

Robots are becoming an increasingly impactful part of our world as automation changes the landscape of work and personal life. An understanding of how robots function, and how they are made, is therefore becoming increasingly important. In this course students will work to design, build and test robots to perform a variety of tasks. As students engage in a variety of challenges they will be developing not only their designing, building and programming skills but also collaborative skills that are crucial to any future career path. Students will consider:

AP Computer Science Principles

Course Code: HS8204
Duration: Year
Credits: 1.0

AP Computer Science Principles introduces students to the central ideas of computer science, instilling the ideas and practices of computational thinking and inviting students to understand how computing changes the world. This rigorous course promotes deep learning of computational content, develops computational thinking skills, and engages students in the creative aspects of the field. The AP Computer Science Principles course teaches the concepts and computational thinking practices central to the discipline of computer science — and is organized around the investigation of seven topics, all of which are fundamental principles of computing and STEM (science, technology, engineering, mathematics) careers.

Students who take the AP Computer Science Principles course will develop a range of skills vital to success in subsequent college courses, such as using computational tools to analyze and study data and working with large data sets to analyze, visualize, and draw conclusions from trends. They will also develop effective communication and collaboration skills, working individually and collaboratively to solve problems, and discussing and writing about the importance of these problems and the impacts to their community, society, and the world.

AP Computer Science A

Course Code: HS8201
Duration: Year
Prerequisites: Algebra II/Trigonometry
Credits: 1.0

The goals of an AP course in computer science are comparable to those in the introductory sequence of courses for computer science majors offered in college and university computer science departments.

It is not expected, however, that all students in an AP Computer Science course will major in computer science at the university level. An AP Computer Science course is intended to serve both as introductory course for computer science majors and as a course for people who will major in other disciplines that require significant involvement with technology. All students enrolled in an AP subject must sit the external exam at the end of the school year.

Introduction to Robotics

Course Code: HS8011
Duration: Year
Prerequisites: None
Credits: 1.0

Robots are becoming an increasingly impactful part of our world as automation changes the landscape of work and personal life. An understanding of how robots function, and how they are made, is therefore becoming increasingly important. In this course students will work to design, build and test robots to perform a variety of tasks. As students engage in a variety of challenges they will be developing not only their designing, building and programming skills but also collaborative skills that are crucial to any future career path. Students will consider:

- How do electronics, mechanical engineering and programming work together to create solutions to real world situations?
- What are my unique skills and passions, and how might they contribute to a successful robot?

- How do we use a design process to develop the best solution we can make?
- How do we deal with and learn from different viewpoints, setbacks and challenges that we face as we develop a solution to a problem?

In addition to designing and creating robots students will also gain exposure to robotics in the real world by exploring current research, robotics in the news and robotics competitions.

Project Design

Course Codes: HS6038
Duration: Year
Prerequisites: None
Credits: 1.0

The purpose of this course is to introduce students to the engineering design process and to create materials in an authentic context that would be used in school theatre productions/projects and school events. Students will use the maker space to create props, sets and materials using the design process as they meet with clients to imagine, develop, revise prototypes and create final products.
This course may be repeated for credit.

Game and App Development

Course Codes: HS60328
Duration: Semester
Prerequisites: None
Credits: 1.0

Digital Game Design is taught for a semester and is designed for complete beginners with no previous background in computer science, and progresses to teach advanced topics. The course is highly visual, dynamic, and interactive, making it engaging for new coders. The course is project based where students will design and build several games over the duration of the course. Once the course is completed, students will be well skilled in interactive game design in Javascript.

Web Design & Virtual Reality

Course Codes: HS8009
Duration: Year
Prerequisites: None
Credits: 1.0

The Web Design course is designed for complete beginners with no previous background in computer science. The course is highly visual, dynamic, and interactive, making it engaging for new students. In today's world, web pages are the most common medium for sharing ideas and information. Learning to design websites is an incredibly useful skill for any career path. The Web Design course is a project-based course that teaches students how to build their own web pages. Students will learn the languages HTML, CSS & Bootstrap, and will create their own live homepages to serve as portfolios of their creations. By the end of this course, students will be able to explain how web pages are developed and viewed on the Internet, analyze and fix errors in existing websites, and create their very own multi page websites.

Students will learn the foundations of user interface design, rapid prototyping and user testing, and will work together to create professional, mobile responsive websites. Virtual Reality is added onto existing HTML skills to introduce students to the basics of building virtual reality worlds using HTML and the A-Frame JavaScript library. In this course, students will learn how to make virtual reality worlds with shapes, animation, and interactions in A-Frame. Students will be able to view and share their creations in a VR device.

IB Computer Science SL/HL Y1-Y2

Course Codes: HS8115 (SL Y1); HS8125 (Sl Y2); HS8135 (HL Y1), HS8145 (HL Y2)
Duration: Two years
Credits: 2.0

The IB computer science course helps students become aware of how computer scientists work and communicate with each other and with other stakeholders in the successful development and implementation of IT solutions. While the methodology used to solve problems in computer science may take a wide variety of forms, the group 4 computer science course emphasizes the need for both a theoretical and practical approach. Students acquire an understanding of the fundamental concepts of computational thinking and of how computers and other digital devices operate, and learn the skills necessary to create computer programs using the Java programming language. During the course students will develop computational solutions. This will involve the ability to: identify a problem or unanswered question; design, prototype, and test a proposed solution liaise with clients to evaluate the success of the proposed solution; and make recommendations for future developments. Students are assessed internally through a software design and creation project and externally through a written exam.

Higher Level Coursework: Students taking IB Computer Science at the HL level will explore a number of higher level programming concepts and skills including recursive algorithms, the creation and use of abstract data structures, systems resource management, and control systems.

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, andhealth. 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.

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.

ENGLISH AS AN ADDITIONAL LANGUAGE (EAL)

Grade 9 Student may be placed into the following class:

English 9: Sheltered Immersion EAL Course

English as an Additional Language (EAL) at Shanghai American School

Our students come from a variety of language backgrounds. Some may need support in building academic English proficiency which will be determined through language proficiency testing and a review of previous school records. All students, however, are immersed in a rigorous college-preparatory academic curriculum.

SAS is committed to additive bilingualism (maintaining home languages while developing English language proficiency). It is our expectation that our EAL students will successfully participate in the SAS learning community, have complete access to our entire curriculum, experience fully the social benefits of being with their peers, and also receive support specific to their language acquisition needs.

EAL Support

Students will have a certified EAL teacher available to support them during general supervised study hall.

EAL Plus (EAL+) Support

Ninth grade students who are identified as needing more support (called EAL +) will receive EAL support during their English 9 and Asian History courses. English 9 is taught in a sheltered immersion model. A certified EAL teacher will work with the subject teachers in Asian history. Students will also have a certified EAL teacher available to them during general supervised study hall.

ONLINE LEARNING

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

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 will be 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 Information Technology in a Global Society HL
IB Information Technology in a Global Society SL
IB Philosophy SL

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 http://www.govhs.org/Pages/Academics-Catalog.

SAS students may take a maximum of seven courses in any semester, which can include one VHS course per semester. The grade for the VHS course will appear on the student's SAS report card and transcript and will be calculated as part of their grade point average. 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 complete the VHS Pre-Student Survey (http://www.govhs.org/Content/InfoFor-StudentSurvey) to decide if an online course is right for them. Students should then meet with their guidance 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) and attach a copy of the VHS Pre-Student Survey with their answers. 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. Tracie Dotson, 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.

If you are interested in taking an online course, please review the VHS Course Catalog (http://www.govhs.org/Pages/Academics-Catalog) 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.

Example of Virtual High School Course Offerings

VHS Inc.
Virtual High School Global Consortium
www.goVHS.org

Shanghai American School - Virtual High School Partnership

Students in grades 11 and 12 may request to take an online course from the Virtual High School (VHS) (www.goVHS.org) for SAS credit. These courses will be taken entirely online from a non-SAS teacher. The grade for the VHS course will appear on the students SAS transcript and will be calculated as part of their grade point average. Interested students must apply and receive administrative approval. There is no cost for an approved SAS student to take a VHS course. However, spaces are limited. For more information see Mr. Moody (mark.moody@saschina.org).

Virtual High School offers a catalog of full semester courses in the Arts, Foreign Language, Language Arts, Life Skills, Math, Science, Social Studies, Technology, and AP1 Study to students in VHS member schools. The courses listed are current at the time of publication. Visit our website at www.goVHS.org for the most current offerings.

AP® Courses
- AP® Environmental Science
- AP® French Language and Culture
- AP® Human Geography
- AP® Music Theory
- AP® Spanish Language and Culture
- AP® World History

Arts
- Art History
- Art History: Art of the Caribbean Islands
- Creating Art History*
- History and American Pop Music*
- History of Photography
- Music Listening and Critique*
- Music: Fundamentals of Composition*

Business
- Business Math
- Entrepreneurship: Starting Your Own Business
- International Business
- Investing in the Stock Market
- Marketing and the Internet
- Personal Finance

World Language
- Chinese Language and Culture
- German language and Culture
- Italian Language and Culture
- Latin 1
- Latin 2
- Portuguese 1
- Russian Language and Culture
- Spanish 1
- Spanish 2

Language Arts
- Around the World in 80 Days*
- Creative Writing
- English 10
- English 11
- English 12
- Essay Writing
- Fantasy and Science Fiction Short Stories
- Film and Literature
- Folklore and Literature of Myth, Magic, and Ritual
- Ghoulies, Ghosties, and Long-Legged Beasties*
- Horror Writers
- Journalism in the Digital Age
- Literature of the World
- Mythology
- Poetry Writing
- Screenwriting Fundamentals*
- Shakespeare in Films
- To Kill a Mockingbird*
- Twentieth Century Women Authors
- Young Adult Literature*

Life Skills/Health
- Kindergarten Apprentice Teacher
- Now What Will You Do?
- Parenting in the Twenty-First Century*
- Perspectives in Health
- Physical Education: Personal Fitness
- Preparing for College

Mathematics
- Algebra 1*
- Algebra 2*
- Calculus Honors
- Geometry
- Math You Can Use In College
- Mathematical Reasoning and Logic
- Mathematics of Electricity*

Mathematics con'd
- Number Theory
- Pre-Calculus: Advanced Trigonormetry
- Pre-Calculus: Functions
- Statistics Honors

Science
- Advanced Topics In Chemistry
- Anatomy & Physiology
- Animal Behavior and Zoology
- Astronomy Principles
- Biochemistry
- Bioethics
- Biotechnology
- Chemistry Honors
- Climate Change
- DNA Technology
- Earth and Space Systems Science
- Environmental Science
- Epidemics
- Evolution and the Nature of Science
- Forensic Science
- Genes and Disease
- Meteorology
- Nuclear Physics
- Oceanography
- Physics
- Preveterinary Medicine
- The Human Body

Social Studies
- Constitutional Law
- Criminology
- Current Issues in American Law and Justice
- Eastern and Western Thought
- Economics Honors
- Peacemaking

Social Studies con'd
- Philosophy I
- Practical Law
- Psychology Honors
- Psychology of Crime
- Sociology*
- Sports and American Society
- The Glory of Ancient Rome
- The Golden Age of Classical Greece
- The Holocaust
- U.S. Government
- U.S. History: 1745 - 1877
- U.S. History: 1877 - Present
- World Conflict, a United Nations Introduction
- World History: 1450 - Present
- World History: Pre-History to 1500
- World Religions

Computer Science and Technology
- CAD*
- Computational Science and Engineering Using Java
- Computer Science Honors
- Creative Programming from Scratch
- Programming in Visual Basic*
- Sustainable Energy Engineering
- Technology and Multimedia*
- Video Game Design Using GameMaker
- Web Design: Advanced
- Web Design Basics

Engineering
- Engineering for Sustainable Energy
- Engineering Principles

1 VHS is qualified through the AP Course Audit to label its courses "AP"

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