FRENCH-AMERICAN SCHOOL OF NEW YORK
LYCÉE FRANCO-AMÉRICAIN DE NEW YORK

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Mission: FASNY develops globally literate, multicultural lifelong learners through a unique program that integrates French, American, and international curricula. We educate students to understand, contribute to, and thrive in an interdependent world. FASNY holds its students to the highest standards of academic excellence, supports them in their personal development, and fosters a spirit of inquiry, service, and social responsibility to the environment and the global community.

SCHOOL STRUCTURE	***ORGANISATION DE L'ÉCOLE***
American Terminology	French Equivalent
Preschool	***École Maternelle***
Nursery (3-year-olds)	*Maternelle petite section*
Pre-Kindergarten (4-year-olds)	*Maternelle moyenne section*
Kindergarten	*Maternelle grande section*
Lower School	***École Primaire***
Grade 1	*Cours préparatoire*
Grade 2	*Cours élémentaire 1ère année*
Grade 3	*Cours élémentaire 2ème année*
Grade 4	*Cours moyen 1ère année*
Grade 5	*Cours moyen 2ème année*
Middle School	***Collège***
Grade 6	*Sixième*
Grade 7	*Cinquième*
Grade 8	*Quatrième*
High School	***Lycée***
Grade 9	*Troisième*
Grade 10	*Seconde*
Grade 11	*Première*
Grade 12	*Terminale*

FASNY's unique academic program is rigorous and challenging, adhering to either a combination of traditional American and official French curricula or the IB curriculum in the IB Diploma program classes. In all grades, there is an emphasis on critical thinking and problem-solving.

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PRESCHOOL

Preschool at FASNY is, for many students, their first exposure to a second language. Based at FASNY's Manor campus, in Larchmont, our preschool students benefit from plenty of outdoor recreation space. The full-day program is designed to stimulate curiosity, promote creative thinking, and develop social skills in a caring and nurturing environment. Language acquisition is at the heart of FASNY's preschool program. Much of the preschool curriculum is taught in French in order to establish the strong language base needed for the reading process. Language development in both French and English is an integral part of all academic, motor, social, and artistic activities and emphasized in all of the preschool skills taught. French-language support is offered for non-francophones in Nursery, PreK, and Kindergarten. English-support classes are offered for non-anglophones who require more exposure to English. These classes are held in a small-group setting one hour a week in PreK and Kindergarten. In addition, every week a half-day is dedicated to French-language support for non-francophone students and in English for non-anglophones.

Preschool General Information

Excursions/Field Trips

The preschool classes go on several field trips throughout the school year. These trips play an important part in the learning process. Typical excursions include visits to museums and children's theater productions. The cost of these trips is incorporated in the tuition bill. Parents are often asked to help chaperone preschool trips. Chaperoning is typically organized through the class delegates, who also distribute guidelines for accompanying parents.

Grading System and Report Cards

A report card (*Je valide*) is sent out twice a year (January and June) in Nursery, PreK, and Kindergarten. This report reflects a student's progress in French and English, as well as in mathematics skills, motor coordination, and social development. There is also a section for written comments by the French and English teachers. Students are not graded but rather shown as having acquired a skill, in the process of acquiring the skill, or not yet ready to acquire the skill. Communication with parents takes place throughout the year during parent/ teacher conference days, at Back-to-School Night, and with teachers during the year, as necessary.

Library

The library contains an increasing number of French and English books and periodicals as well as audio-visual equipment. Each student has the opportunity to visit the library and borrow books and become familiar with its contents and services.

Physical Education

All preschoolers are involved in gross-motor control activities every day, including three scheduled periods a week in the gymnasium.

Preschool English Studies

Nursery

Children in Nursery learn in an environment that fosters exploration, language, and play. They are guided and encouraged to explore freely a variety of multisensory and multimedia materials and to participate in various interactive experiences. A variety of activities takes place in small-group, whole-class, and independent settings, promoting play, construction of knowledge, and creativity. These

activities include building, painting, using Playdough, drawing, working with manipulatives, playing outside, using gym equipment, exploring nature, cooking, dancing, singing, playing imaginatively, playing rhyming games, and listening to stories read aloud. Oral language skills are underscored throughout the curriculum and integrated within the thematic contexts of science, social studies, art, movement, and music.

Pre-Kindergarten

As part of the developmental learning continuum, children in Pre-Kindergarten continue to develop the language, motor, and social skills introduced in Nursery and strengthen those that have been established. They begin to articulate in complete sentences, strengthen recognition of sound patterns and rhyming words, identify some letters and make sound-letter matches, and develop concepts of print. Students participate in class discussions, begin to understand key elements in a story, and expand and enrich their vocabulary. They are introduced to a greater amount of subject-matter material as they build the foundations for learning to read and write successfully and the interpersonal skills needed for communicating and cooperating with others.

Kindergarten

Experiences expanding the basic language and literacy skills learned in the preschool help to form the basis for developing reading and writing skills—and for expanding oral language skills—in Kindergarten. To help children construct knowledge, subject-area material is broadened and classroom materials become more complex. Teachers provide interactive instructional and play activities to promote social/emotional growth and fine/gross motor development. Developing strong pre-reading skills is also an important goal of Kindergarten. Children build upon phonemic (sounds) awareness skills and progress to more advanced phonetic (letter-sound relationships) skills, learning to identify letters with their corresponding sounds and to apply that knowledge to identify printed words. They are exposed to rhymes, songs, poems, narrative stories, and informational texts. Concepts of print, receptive and expressive vocabulary, listening comprehension, oral language, and motivation to read are developed and expanded upon in the beginning-reading process. With a view toward developing problem-solving skills, students are taught coding and robotics using tactile blocks, iPads, and robots in a bilingual setting.

Preschool French Studies

Cycle 1 (Nursery, Pre-Kindergarten, and Kindergarten)

Cycle 1 places an emphasis on socialization and the development of language skills. The program is designed to help students develop special relationships with other children as well as with adults. In the process, they establish independent identities and gain autonomy. Additional emphasis is placed on the development of fine and gross motor skills as well as on language development. This is a unique time when children lay the foundation for all future learning.

Learning to Work Together

Our primary objective is to teach students to interact and to facilitate the discovery of the norms of social interaction. They assume responsibilities according to their capabilities, account for their actions, and listen to others. Students develop language skills that enable them to better exchange ideas and feelings. The program also provides a wide variety of experiences to help students construct the knowledge that will prepare them for more systematic learning in Cycles 2 and 3.

Kindergarten is a period of transition. The goals of Cycle 1 are met, and the precepts of Cycle 2 are introduced to ready students for the fundamental concepts of grades 1 and 2.

Language

Students engage in a variety of spontaneous verbal exchanges and express themselves in a variety of situations, such as dialogue, story, explanation, justification, and summary. They are prompted and encouraged by teachers to provide oral accounts of their first experiences. Students learn how to communicate. By interacting with them, teachers also encourage them to make progress and apply their new language constructions. Students learn to enunciate, use vocabulary appropriate to purpose, and progressively learn a complex syntax structure through language games.

Exploration of Written Language

Children enter the world of reading and writing through four key areas: phonology; alphabetic principle; pre-writing skills; and writing.

Physical Activities

Physical activities enable harmonious motor skills and intellectual and emotional development. Action and language are key components in children's development as they explore the space around them. Gradually, they move from handling familiar situations and learn to adapt to their expanding environment. The activities gravitate toward the discovery of self, of others, and of the surrounding environment.

Discovery of the World

Children discover the world around them, both natural and man-made. They construct knowledge through observation or manipulation, and verbalize and offer critical judgments based on their experiments. Oral expression is a major component in this field of activity, which includes the discovery of the worlds of science, mathematics, history, and geography.

Sensitivity, Imagination, Creation

In Cycle 1, children develop their sensitivities, imagination, and ability to create. The main objective is to encourage children to discover the arts and to react to them emotionally. Through varied exposure to works of art, children expand their imagination and learn to express their feelings. Children take pleasure in building and inventing as well as in the exchange of ideas, feelings, and impressions.

LOWER SCHOOL

Curriculum in French - French, mathematics, French history and geography, music (taught bilingually), coding (taught bilingually)

Curriculum in English - English, science (bilingual in grades 1-5), art, physical education, music (taught bilingually), coding (taught bilingually)

Lower School General information

French Studies, English Studies, and the Bilingual Curriculum

The curriculum taught in French is mandated by the French Ministry of National Education, with some contextual adaptations. The English curriculum is developed by the school in accordance with the best practices of American independent schools. Both curricula are harmonized for an ideal bilingual learning experience.

Our students quickly learn that the English and French curricula overlap, just as subjects are linked. Students understand that the various subjects covered are accessible from both curricula and thus are very open-minded and flexible in their approaches to learning. FASNY provides a foundation in written and oral expression, allowing students to continue their bilingual education in middle school.

In order to solidify their reading-acquisition skills, the two sound systems are kept separate, and reading is first taught in French. Building on the English phonetics that are taught in preschool, as well as the reading skills initiated in French, children begin formal English reading instruction in grade 1. There are several levels of English, including the non-native ELL (English Language Learners), in each grade. Students are placed in the level best suited to their needs. They are divided into small groups, based on their individual reading level, thereby creating an ideal and natural learning environment for reading skills to develop.

For students who have no prior English language exposure, we have developed an intensive ELL program, whereby they can enter FASNY at any grade level and learn the English language. Students begin learning to speak, read, and write in order to be able to follow the regular English curriculum as soon as possible yet according to individual progress.

ELL (English Language Learners)

A strong ELL program serves the needs of non-anglophone students in grades 1 to 5. ELL groupings are small and designed to teach English to non-native English-speaking students at a speed and/or level matched to each student's ability. ELL students learn the same content in social studies and science as all students do in each grade level. The goal of ELL instruction is to enable students to develop socially and academically, while achieving competency in the English language and, eventually, being integrated in a higher-level English class.

Advanced English Language Learners (AELL)

FASNY offers an intermediate stage of English classes, starting in first grade. These transitional classes are designed for students coming out of ELL, with the goal of preparing them to enter native-level English classes. Students in these classes have good basic English-language skills but have not yet acquired the level needed to be successful in a regular English class. The curriculum for the intermediate classes closely follows the regular curriculum, with a greater emphasis on reinforcing higher-level language, reading, and writing skills at an appropriate pace for the student.

After-School Student Support Recommended by Teachers

The Lower School offers two opportunities for students to obtain learning support after the regular school day. The groups are based on teacher recommendations and approved by the parents. The two groups are:

- Homework Help: One FASNY teacher works with up to four students
- Tutoring: One FASNY teacher works with one or two students, maximum

Note: These programs are separate from the after-school programs that include *garderie* (childcare) and Supervised Study Hall, which provides a setting for students to do their homework in a relationship of one teacher to 10 students. These two programs are open to parent registration and do not need teacher recommendations in order for students to participate in them.

Tests

French National Evaluations - FASNY administers the national evaluations required by France's Ministry of Education. Students take national tests at the beginning of third grade. From first grade through fifth grade, regular evaluations are conducted in class to measure students' mastery of new ideas and concepts.

Standardized Tests - The Comprehensive Testing Program, commonly called the ERB (Educational Records Bureau), is a nationally administered annual testing program that measures academic reasoning and achievement. This test is given each spring to all students in native English classes from grades 3 to 9. Non-native-level English and some ELL students are evaluated with the IOWA tests in grades 3 through 5.

Excursions/Field Trips

Each class goes on several field trips per year. The trips enhance the curriculum and are an important part of the learning process. Typical trips include visits to museums, historical sites, concerts, and theater programs. In addition, students in grade 5 go on an overnight school trip of two days. All students generally travel by school bus on a field trip.

Grading System and Report Cards

Families receive a report on their child's work two times a year. These semester reports show the level of competence achieved in each subject area. The report card also contains the teachers' written observations. Parent/teacher conferences are held in November and March.

Library

Each campus has a library. The Lower School library contains an increasing number of French and English books and periodicals as well as audio-visual equipment. Each student has the opportunity to visit the library and become familiar with its materials and services. Lower school students have regularly scheduled instruction periods in the library.

Student Support Team (SST)

The Student Support Team (SST) is intended to gather support when a teacher sees that a student's progress in school is not advancing due to changed behavior and/or academic performance. SST meetings may include the child's parents, his/her teachers, the school psychologist, members of the administration, the speech therapist, and anyone else working directly with the child. The team develops an action plan with strategies to support the student, academically and psychosocially. If further academic or psychosocial evaluation or therapy is necessary, a referral to outside sources will be made. Outside therapists and

learning specialists who work with students will be invited to SST meetings.

Educational Technology

Educational technology is interwoven in the English curriculum at all grade levels. All students participate in our bilingual coding program. In grades 1 through 3, there is a 1:1 iPad program in place in all the classrooms. The students use the iPads for curricular projects across the disciplines and work on appropriate apps, which reinforce the skills taught in the classroom. In grades 4 and 5, students benefit from a 1:1 Chromebook program that allows them to begin using additional resources for research, writing, and presentation. The fourth- and fifth-grade classrooms have 2:1 iPads available for students.

Lower School English Studies

Grade 1 Curriculum

Reading

The emphasis is on learning and reinforcing letter-sound relationships and developing comprehension skills, reading fluency, and vocabulary acquisition. A phonics-based reading series is used for reading instruction, supported by plays, poetry, and stories for guided reading. Oral skills are developed through participation in class discussions and conversations, including group story-writing, creating plays, reciting poems, and retelling stories.

Writing

Instruction includes both modeling and shared writing, as well as individual practice in the fundamentals of written conventions. The value of presentation of work and the use of expressive skills are introduced. Students share in collaborative writing exercises, begin to keep journals, and write brief descriptive sentences. They are encouraged to write freely in response to literature and class discussions. Elementary editing of grammar and punctuation tools are introduced.

Social Studies

First-grade social studies focuses mainly on learning about the immediate surrounding world in which the students live and features American culture and history. Topics include families, important American holidays and historical figures, mapping skills, and current events.

Science

In science, students participate in hands-on experiences, experiments, and field visits. Topics of study include ecosystems and recycling, animal habitats and migration, nutrition and the food pyramid, life cycles, forces and motion, and the human body. Children explore habitats (the rainforest, the desert, and polar regions) and nutrition.

Art

The exploration of color and design, through the use of basic techniques and acquisition of art terms, is emphasized. The continued development of fine-motor skills and gross-motor skills is incorporated in projects and activities. Vocabulary and definitions, art critiques, and inclusive class discussions are developed to build self-esteem and creativity. Students begin to maintain an art journal as an opportunity to respond to their own artistic process. Interdisciplinary projects with music are created to contribute to one of the school concerts. All students contribute to the annual art show.

Music

Music is taught in both French and English and through five different approaches: instrumental; vocal; cultural; music theory; and a multimedia

project. First-grade students learn to keep a steady beat and execute simple rhythmic patterns on a percussion instrument. They focus on developing good pitch and breathing skills while learning both French and American songs. Students study Mozart, the instrument families, and fundamental concepts of music theory.

Physical Education

The emphasis is on developing one's personal best, as well as individual skill development in movement patterns and ball activities. Fitness through participation in organized team games, cooperative activities, gymnastics, and dance is encouraged. Specific attention is given to proper throwing, catching, and kicking patterns. Sportsmanship and fair play are modeled and reinforced in each class.

Coding and Robotics

At FASNY, students are exposed to coding at a young age with a view toward developing their problem-solving skills, thus helping students become stronger communicators and thinkers across all disciplines. First graders work with the OSMO coding system, which are tactile blocks that they manipulate to write simple programs. Students write similar programs using Dash robots to solve mathematical problems. Coding and robotics are taught in a bilingual setting.

Educational Technology

First-grade students are introduced to the use of computers, including desktops, Chromebooks, and iPads. Teacher-selected computer programs are used to reinforce language, reading, and writing skills. Students use Internet-based, password-protected sites that reinforce skills learned in the classroom to complete homework. Each student has access to an iPad for use in the classroom every day.

Grade 2 Curriculum

Reading

In second grade, students begin participating in reading activities that include both phonics-based materials and trade books. Students read books and materials of various lengths and genres and content material from other subjects. Phonetic rules, decoding skills, and vocabulary development are emphasized in guided reading groups. Reading comprehension skills, including main idea, detail, sequence of events, time, and setting, are introduced and reinforced. Students begin to develop higher-level thinking skills around inferring information and predicting story outcomes.

Writing

The second-grade writing program focuses on supporting students as they learn that their writing has meaning and can be useful. Students begin to produce thoughtful, complete sentences with correct punctuation and capitalization. They begin organizing related thoughts into short, cohesive paragraphs. Fundamental language conventions such as spelling rules, punctuation, capitalization, and sentence structure are reinforced through consistent application.

Social Studies

The social studies program focuses on familiarizing students with their geographic place in the world. They continue to learn mapping skills and explore relational geography. Students are exposed to American holidays and customs, as well as the holidays and customs represented in the FASNY community. Through books, videos, and class discussion, students develop an understanding of themselves and their relationship to the world around them.

Science

Through observation, manipulation, and experimentation, as well as a variety of resources, second-grade scientists are gradually introduced to the scientific method and the importance of controlling variables and keeping records. They explore the relationship between air and weather. Students study animals to compare the diversity of life in different habitats. They learn about the three states of matter (solid, liquid, and gas), their physical properties, and how they change.

Art

Class projects challenge and further develop motor skills. Students learn new vocabulary and use new media. They continue to acquire knowledge of new techniques and applications. Major artists are introduced, and their contributions to the art world and history are shared with the students. Students use computer technology to add information to their work. They maintain an art journal throughout the year and participate in the art show in the spring.

Music

Music is taught in both French and English and through five different approaches: instrumental; vocal; cultural; music theory; and a multimedia project. Students learn basic notation and fingerings for the recorder and a percussion instrument. They focus on good pitch and breathing while learning French and American songs, are introduced to jazz, and continue their study of the instrument families and concepts of music theory.

Physical Education

Activities that build skills, strength, speed, coordination, self-confidence, and self-image form the basis of the games students play each week. Social and emotional development is addressed through the teaching of concepts such as cooperation, problem-solving, team-building, fair play, and respect for human differences.

Coding and Robotics

Starting in second grade, students are taught logical thinking, problem-solving, and computational thinking through coding using Code.org's Computer Science Fundamentals course, which is specially designed for elementary school students and fully aligned with CSTA and ISTE standards.

Students are taught to perceive themselves as creators of technology and not just users. Using block-based programming, they start by learning the basics of writing algorithms and sequences in a fun, age-appropriate, play-like manner. These concepts are reinforced by the robotics segment of the curriculum. Both coding and robotics are taught in a bilingual setting.

Educational Technology

Students participate in a 1:1 iPad program that includes a coding curriculum and the reinforcement of language skills through spelling and reading-comprehension programs. Classroom smartboards are used to provide additional online resources for support in content areas.

Grade 3 Curriculum

Reading

In third grade, students continue to learn new vocabulary, how to read for detail, and how to read for different purposes. Small-group work is emphasized as students learn how to synthesize information and distinguish between fact and opinion. They begin to use problem-solving skills to understand words and decode text deeply. Students identify root words and learn how prefixes and suffixes change the meaning of base words. They use problem-solving skills to make predictions about spelling patterns, which supports their phonics and vocabulary

development. Students become independent readers who are able to apply multiple comprehension strategies to different kinds of texts.

Writing

In third grade, the emphasis is on internalizing the writing process for students and developing their independence as writers. Students use graphic organizers to develop their ideas. They begin writing drafts of their work and learn how to edit independently for spelling, grammar, and punctuation. Third-grade writers practice their skills in several genres, including personal narratives, book reports, the friendly letter, fiction and nonfiction writing, and poetry.

Social Studies

The third-grade social studies curriculum focuses on map skills, specifically landforms, U.S. geography, and world geography. National holidays, current events, and historical figures are discussed and examined. Students learn about Native Americans and how they adapted to the different regions of America.

Science

In third grade, hands-on experiments and workshops are used to reinforce skills. The scientific method is emphasized to help young scientists predict outcomes, use observation, and reach conclusions. Specific topics include magnets, the solar system, the Earth, and simple machines. Students also learn about the Earth in relation to natural disasters, continental drift, weathering, and erosion.

Art

Class projects begin to include a broader vocabulary of the basic elements of art, encouraging students to develop their own style and introducing cultural aspects of art that can be applied to project work. Students become increasingly independent in the art studio and participate in interdisciplinary projects that enhance their academic program. All students continue to maintain their art journals and participate in the annual art show.

Music

Music is taught in both French and English and through five different approaches: instrumental; vocal; cultural; music theory; and a multimedia project. Students learn the notes of the staff and elements of solfege, music terminology in both languages, and good pitch and breathing techniques. They are introduced to Bach and Beethoven and continue their study of jazz. Each student creates a percussion instrument of their own and prepares a presentation on a music hero.

Physical Education

In third grade, the emphasis continues to be on the joy of movement and playing games, as well as the continued development of spatial awareness and coordination. Team sports are introduced with a skills-based approach and a small-games focus. Character education is reinforced throughout the year, especially during the cooperative games unit. Students are encouraged to demonstrate sportsmanship and inclusion during all activities.

Coding and Robotics

The Computer Science Fundamentals curriculum, which was introduced in second grade, continues in third grade. Programming concepts already learned are reinforced, while more advanced concepts, such as loops and events, are introduced. For the culmination of the semester-long course, students program a game, which they present to their parents. Coding and robotics are taught in a bilingual setting.

Educational Technology

Students have access to iPads in their classroom every day. These are used for coding class as well as for approved online resources to do research. Teacher-selected online resources further support the acquisition of language mechanics and reading-comprehension skills. Students are introduced to research skills via multimedia resources and the Internet.

Grade 4 Curriculum

Reading

The fourth-grade reading program incorporates texts of various lengths and genres. Students are taught strategies and skills for reading both fiction and nonfiction. They independently identify main ideas, important details, plot points, sequence, and setting as well as draw conclusions. Higher-order thinking skills such as inference, author's intent, and character development are stressed. Developing vocabulary, enhancing general language fluency, and reading independently are goals for fourth grade. Students participate in multicultural book clubs with their peers. Oral language skills are further developed and reinforced through read-alouds, debates, and presentations.

Writing

Sentence and paragraph structure are broadened with greater attention to organization, detail, audience, and writing mechanics. Writing genres such as expository, persuasive, and descriptive are studied, with special attention to purpose, construction, and evaluation. Poetry and story-writing give students an opportunity to express their ideas creatively. Writing assignments are integrated in all other areas of academic exploration.

Social Studies

The fourth-grade curriculum fully integrates the main themes of geography—location, human and environmental interaction, human and physical features, and movement—with a study of American history. Economics, civics and government, culture, and society form the foundation for the study of European exploration, the settlement of North America, colonial life, and the Revolutionary War.

Science

Fourth-grade scientists investigate the observable characteristics of organisms, both plant and animal, to learn how the structures function in growth and survival. They study plant and animal adaptations, as well as the connections between human activity and plant and animal survival. Fourth graders use critical-thinking skills to conduct investigations and draw conclusions based on observation, communication, comparison, and organization.

Art

In fourth grade, the emphasis is on encouraging students to develop their own style while applying new media and techniques. New vocabulary, renowned artists and their work, and definitions of art are discussed in class critiques. Interdisciplinary projects in connection with social studies and science are part of the curriculum. Creating art on an iPad is introduced. All students continue to expand their personal art journal and contribute to the annual art show.

Music

Music is taught in both French and English and through five different approaches: instrumental; vocal; cultural; music theory; and a multimedia project. Fourth graders learn the notes of the staff (expanding the recorder range from low D to high F) and elements of solfege, good pitch,

and proper breathing. They are introduced to opera, the Beatles, and contemporary pop music. Each student presents an oral and written report on a famous classical musician or composer.

Physical Education

The focus on team sports continues with the introduction of the racquet sport of Pickleball. In the team-sports units, the focus is on teamwork, strategy, and skill development. The Fitness-gram assessment program is introduced; at two different points in the school year, students perform a series of tests, with the goal of measuring their level of fitness against established standards.

Coding and Robotics

In fourth grade, the coding curriculum picks up the pace. Students are taught to perceive themselves as creators of technology. They not only learn new concepts, such as advanced loops and conditionals, but also to apply these concepts to solving problems in geometry and developing programs to write stories and create games. For the culmination of their semester-long course, students present their coding and robotics programs to their parents. Coding and robotics are taught in a bilingual setting.

Educational Technology

Students have regular access in their classroom to both a Chromebook and an iPad. Areas of focus in educational technology include coding, keyboarding skills, word processing, importing and exporting graphics, learning to use the Internet and web-based tools responsibly, Internet-based research skills, presentation skills, and the use of a local network. Students use Google Classroom as well as educational software and online resources.

Grade 5 Curriculum

Reading

The fifth-grade reading program uses a literature-based approach. Students read fiction and nonfiction and participate throughout the year in book clubs that utilize multicultural titles. The emphasis is on continued development of higher-level thinking skills. Comprehension skills focus on responding to literature and applying convergent and divergent questioning. Students continue to synthesize and summarize information. Vocabulary skills are further enhanced through connections made between individual reading and thematic studies. Oral language skills are developed through class discussion and a variety of classroom presentations.

Writing

Fifth-grade writers are encouraged to use detailed and specific vocabulary, complex ideas, and figurative application of learned literary devices. Students produce more developed and lengthier responses to written and presented material. They become adept in drafting, revising, and publishing a five-paragraph essay. Students explore creative and expository writing. Writing pieces are assessed formally and informally through a variety of checklists and rubrics specific to each assignment.

Social Studies

The social studies program integrates economics, civics and government, culture, and society to form the foundation for an in-depth study of the historical and geographical elements related to the Founding Fathers, the Constitution, the creation of the American form of government, Westward Expansion, the Industrial Revolution, and the Civil War era.

Science

The science curriculum is based on investigations around pendulums, lifeboats, plane sense, and flippers that help students discover relationships through controlled experimentation. Fifth graders gain experience with the concepts of variables and systems (a set of objects that work together). Through these investigations, the scientific method is reinforced so that students learn to hypothesize, record, and graph information collected from their experiments.

Art

Class projects encourage creativity and individuality. They encourage students to use techniques in two-dimensional and three-dimensional art. Using additional equipment and new techniques enhances the challenge of each project. Students explore creating art with iPads and beginner photography. Throughout the year, each student maintains an art journal with written and graphic responses to each project conducted in class. All students contribute to the annual art show, which showcases their artistic development and the creativity of their accomplishments.

Music

Music is taught in both French and English and through five different approaches: instrumental; vocal; cultural; music theory; and a multimedia project. Fifth graders learn the notes of the staff (expanding the recorder range from low C to high C) and elements of solfege, good pitch, and proper breathing. They are introduced to several different musical forms, including the symphony, as well as periods of music—from Renaissance to Modern. They also create the choreography for a musical piece.

Physical Education

In fifth grade, students are challenged to increase their knowledge of the rules specific to each sport in order to enhance their basic strategies during play. Cooperative games and dance complement the team-sports units. Fifth graders participate in the Fitnessgram assessment twice during the year. In addition, they are encouraged to take part in the intramural sports program during recess and the annual Hoops for Hearts event.

Coding and Robotics

Critical thinking, abstraction, and computational problem-solving are at the heart of the fifth-grade coding and robotics curriculum. By this grade, students have a strong grasp of basic concepts and enjoy the challenge of learning to write programs with conditionals and functions. Coding and robotics are taught in a bilingual setting. The Computer Science Fundamentals course, which began in second grade, continues in sixth grade and culminates with a capstone project.

Educational Technology

Educational technology in fifth grade continues to include coding, developing keyboarding skills, and learning to use Google Classroom. Every student has regular access to a Chromebook and an iPad. Students use technology to deepen their research and presentation skills, and learn how to best use email with the use of a local network. Use of educational software and online resources reinforce concepts learned in the classroom.

Lower School French Studies

Cycle 2 (Grades 1, 2, and 3)

This is the cycle of Fundamental Learnings, when all learning is an inquiry into the world. Language skills are a priority and, in particular, the acquisition of the French language. During these years, the student builds his or her elementary knowledge, including speaking, reading, writing, and counting. Following the French program and continuing from the material covered in Kindergarten, a student's acquisition of written and oral language becomes natural in the first and second grades. Mathematics skills also are introduced and reinforced in these grades. Technology, through the daily usage of iPads, smartboards, and laptops, is fully integrated in classroom work.

Reading and Writing

In first grade, students first learn to read in French. Building on the graphic skills developed in preschool, writing skills are taught in conjunction with the reading program. Writing, language skills, and oral expression are integrated as the basis of this cycle. The areas of study reinforce one another, and class projects, such as journals, are often assigned to support the acquisition of these skills.

Discovering the World

In Cycle 2, students discover the world around them and begin to explore notions of time and space, as they learn the basic elements of history and geography.

Mathematics

In Cycle 2, students consolidate their knowledge of numbers and develop their aptitude for arithmetical procedures (addition, subtraction, and multiplication). Performing mental operations and problem-solving are also emphasized. Understanding and applying the fundamental notions of measurement, including a comparison of the metric and American systems, are areas covered as well.

Science

Science is taught in either English or French, depending on the level of the student and criteria from the French and American programs. The themes covered in first grade are the human body (bones and muscles) and seeds and plants. In second grade, they are air, water, and the three states of matter, according to the requirements dictated by the French and American curricula.

Cycle 3 (Grades 4, 5, and 6)

**For grade 6, see Middle School section*

In Cycle 3, students reinforce, consolidate, and expand their knowledge gained across the curriculum. They apply a new rigor and exactitude to their studies.

Reading/Writing

Students consolidate their reading skills, strengthening comprehension, vocabulary, and fluency. The goal for this cycle is to establish independent readers with a taste for a variety of literary genres and with well-developed basic research skills. At the same time, students develop their writing skills in order to produce increasingly complex, well-organized, and coherent written text.

History/Geography

History/geography studies provide students with a thorough knowledge of the world. They are encouraged to go beyond simplistic cause-and-effect relationships to build a deeper understanding of the world. Reflecting on current events around the globe, students are asked to become more aware of fundamental human rights. This leads to a better

understanding of the rules of their social environment, including nation, community, family, school, and class.

Mathematics

By the end of Cycle 3, students have a mastery of addition, subtraction, multiplication, and division using integer numbers. They develop a range of mental procedures and are able to use the calculator when appropriate. They have a basic understanding of decimals, fractions, and ratios. Problem-solving is a central part of the curriculum. In geometry, the French curriculum gives students the basis to follow a geometry course in middle school. The notions of area and perimeter are also introduced.

Science

Students develop the scientific-method approach to investigating their environment. Science is taught in French and English, fulfilling the requirements of both the French and American systems. Themes taught include life science in third grade, matter and electricity in fourth grade, and the human body/energy and the environment in fifth grade.

Testing

FASNY organizes evaluations of students in grades 1 through 5. These evaluations mirror the ones that used to be recommended by the French Ministry of National Education. This testing allows the school to evaluate students' ability in math and French by the end of Cycle 3. In grades 1 through grade 5, regular evaluations are carried out in class in order to assess the level of students' abilities to learn new ideas and concepts.

MIDDLE SCHOOL

The Middle School—grades 6 through 8—is based at the Village campus, in Mamaroneck. The curriculum for students is bilingual and follows the standards set by the French Ministry of National Education. Courses taught in English adhere to the standards of the New York State Education Department and are comparable to those offered at top New York-area independent schools.

Middle School General information

Community Service

Students complete a minimum of 10 hours of community service each school year.

English Studies

Students with little or no English-language background can enroll at FASNY at any grade level, as English at the French-American School is taught at three levels: ELL (English Language Learners); Advanced ELL (for non-native speakers with good oral comprehension and speaking skills, developing reading and writing skills); and Native.

At the ELL level, students work on developing basic listening, speaking, reading, and writing skills. Students traditionally spend one to three years at this level before progressing to the Advanced ELL level, where they work on refining their reading comprehension and writing skills. Students may spend anywhere from one to three years in Advanced ELL before reaching the Native level. Students in the Native-level class follow a curriculum comparable to what is taught at the most competitive American independent schools in the region.

In addition to five periods of English-language study, students have two periods per week of social studies taught at the ELL, AELL, or Native level. Native-level students study biology in English, while non-Native-level students study biology in French.

Excursions/Field Trips

Each class goes on several field trips per year. These enhance the curriculum and are an important part of the learning process. Typical trips include visits to museums, historical sites, concerts, and theater programs. Students in grades 6 to 8 also go on extended trips of three or four days or more, an enriching addition to the school curriculum. All students generally travel by school bus on field trips.

Extracurricular Activities

The long, rigorous school day nonetheless allows for extensive participation in extracurricular activities. Most students become involved in our diverse program, which includes the yearbook, school newspaper, literary magazine, mathematics club, filmmaking club, drama club, Model United Nations, chorus, a cappella group, rock band, and other activities. Interscholastic teams include boys and girls soccer, basketball, rugby, co-ed cross-country, track and field, tennis, baseball, and swimming.

Grading System and Report Cards

Number grades are used in the middle school. A scale of 20 is used, with 16-20 being an A+. Most teachers do not give grades of 20 unless the work can be graded completely objectively. As the students get older, grading standards become more rigorous.

Report cards, written in French, are issued in December, March, and June. A single trimester report card, which also contains the teachers' written observations, is used for all subjects.

Library

The Village campus has a library housing a sizable collection of French and English books and periodicals, as well as audio-visual

equipment. Each student has the opportunity to visit the library and become familiar with its contents and services.

Music, Theater, and Art

FASNY recognizes the importance of the arts in a well-rounded education and sponsors various student productions throughout the school year. These include musical-theater productions, plays, art exhibitions, assemblies, concerts, and presentations.

Required Third Language

In seventh grade, all FASNY students choose between Spanish and German as a required third language, which they will study throughout high school. Elective classes are also available in Latin and in a fourth foreign language (by enrolling in the CNED).

School Counselors

The school counselors counsel students individually or in groups. They work closely with the division heads, the deans of students, teachers, and student monitors, who refer students to them. In coordination with the division heads, they will call in parents for a conference. A school counselor generally meets with students during study hall or a lunch period. In case of an emergency, a student may meet with the counselor at any time, and teachers will be informed as soon as possible. In coordination with the division heads and the deans of students, the school counselor organizes drug-prevention, conflict-resolution, and AIDS-awareness workshops.

Psychologist

In addition to the counselor, a psychologist is available to all middle school students on Fridays.

Student Support Team (SST)

If a teacher sees a student at risk because of academic performance or psychosocial behavior, a Student Support Team (SST) meeting is organized. SST meetings may include the child's parents, his/her teachers, the school counselor, the psychologist, members of the administration, the speech therapist, and anyone else working directly with the child. The team develops an action plan with strategies to support the student, academically and psychosocially. If further academic or psychosocial evaluation or therapy is necessary, a referral to outside resources will be made. Outside therapists and learning specialists who work with students are invited to SST meetings.

Tests and Exams

Standardized Tests - The Comprehensive Testing Program, commonly called the ERB, is a nationally administered annual testing program that measures academic reasoning and achievement. All Native-level English speakers in grades 6 to 9 take this test at the beginning of the third term.

Middle School Curricula

Grade 6 Curriculum

Art

Applying the principles of art to the exploration of the spherical form, students are instructed in the use of a variety of materials, such as pastels, pencils, paints, and clay, as they develop their ability to capture a rounded three-dimensional likeness. Some projects are completed from observation; others call for students to draw from their own imagination. Students learn the fundamentals of color theory, which they will continue to build upon and apply in the coming years. This course is taught in English.

Biology

The sixth-grade science program follows the French curriculum but is taught in English. The students, therefore, experience the French inductive style of introducing content and the American constructivist approach to student-oriented learning. The program focuses on animal life and animal interaction with the environment. Students first learn about the scientific method and its application and later use it in exploring topics, including animal behavior, interactions of life (ecosystems, populations, and communities), the nonliving environment, conserving resources, plants (seed and seedless), plant reproduction and development, nutrition, classification, and cells. In order to develop critical-thinking skills, an inquiry-based approach is used in the experimental part of the course. Consequently, students attain a solid understanding of topics with the ability to apply it to new situations. Students develop safe and effective laboratory skills. This course is offered to students in Native English. Students in ELL classes follow the same course taught in French.

Chorale

The introductory chorale is open to young singers who show a marked interest in participating in a vocal ensemble. Emphasis is placed on developing proper vocal technique, tonal production, sight-singing skills, and musical terminology. Students learn age-appropriate choral literature representing various styles and cultures. Students may elect to take Chorale or General Music. This course is taught in English.

Coding

Students complete Code.org's Computer Science Fundamentals course, which they started in the lower school. They further their understanding and use of concepts such as variables, functions, and conditionals. The culmination of the Computer Science Fundamentals course is a capstone project displaying their individual creativity and understanding of programming concepts.

Electronics

This hands-on course puts students in charge of implementing acquired know-how to complete concrete projects. Activities are geared towards the creation of a real technical object, such as a battery-powered alarm assembled from previously studied components. This course is taught in French.

English 6 - Native Level

Using a wide range of literary genres, students are introduced to the basic concepts of literature. They work to develop skills in higher-level thinking, reading, writing, presenting, and listening. A central theme of the course is mythology in literature. To this end, students study world myths and write a five-paragraph research paper on a theme found in world mythology. As well, they read the novel *King of Shadows* as a way to prepare for Shakespeare's *A Midsummer Night's Dream* to conclude the year. There is intensive grammar work based on the texts *Rules of the Game 2* and *3*, as well as vocabulary study using *Wordly Wise 3000, Book 7*. This English course is taught at a native speaker's level.

English 6 - Advanced English Language Learners (AELL)

This course begins with an introduction to the literary elements of the short story. These elements are then revisited with readings that are similar to regular English course study: *The Children's Homer* and *A Midsummer Night's Dream*. In addition, there is a close reading of *A Fair Wind for Troy*. There is also grammar work using the text *Rules of the Game 1* and various supplements. Vocabulary study is based on *Wordly Wise 3000, Book 6*. This course also

focuses on strengthening the foundations of writing skills. Students work on developing clear and precisely written paragraphs on a variety of topics. This course is taught in English.

English 6 - English Language Learners (ELL)

The goal of the ELL program is to facilitate the development of proficiency in the English language. Students in an ELL class are taught basic communications skills in addition to developing reading comprehension, composition writing, pronunciation of words, and building vocabulary and word usage. Strategies for teaching low-beginning students differ from those used for high-beginning students who have had prior exposure to the English language. Supplemental handouts are used throughout. Texts used include *Side by Side* (book and workbook) and *Word by Word Picture Dictionary*, as well as the ELL library program. Students in the intermediate level use *Handwriting*. Other textbooks used are *Basic Vocabulary*, *A Year in the Life of an ESL Student: Idioms and Vocabulary You Can't Live Without*, *Compositions and Grammar 1*, and *Side by Side, 1* and *2*. Short stories studied include *Frindle*, *Dear Mr. Henshaw*, and *Crenshaw*. This course is taught in English.

French

Sixth grade is the third and final year of Cycle 3 in the French teaching system. Students develop a deeper analysis of texts. This class is articulated around the following themes:

1. Monster, What Makes Us Human?
2. Adventure
3. Creation Stories, Poetic Creation
4. Opposition to Stronger than Thyself: Stratagems, Lies, and Masks

Students read classics of French literature and young-adult novels. They reinforce their oral and written linguistic skills. This French course is taught at a native level.

History and Geography

This course focuses mostly on the ancient world. Students study Mesopotamia, Egypt, the people of the Bible, Greece, Rome, and the origin of Christianity. They also study the Christian empires at the beginning of the Middle Ages as well as an ancient civilization from the Asian continent (the Han dynasty in China or the Gupta dynasty in India). The geography portion of the course introduces students to world demography as well as human settlements (urban settlements, rural settlements, life near the seaside, or life in areas with natural constraints). A number of documents, including texts and photographs, are used for their historical and literary value. Emphasis is also placed on writing, both individual and assisted. This course is taught in French.

Life Skills

The life skills class is organized as one more level of support for the students as they make the move from lower school to middle school. In this course, students learn how to communicate effectively, recognize and manage their feelings, and make decisions. They learn how to formulate goals and manage themselves, their time, and their activities. Students acquire skills that allow them to apply their academic skills more effectively.

Mathematics

This course has three objectives: to reinforce the knowledge acquired in lower school; to prepare students to use specific mathematical methods and ways of thinking; and to develop the ability to use mathematics as a tool in everyday life and in other disciplines. Topics covered include the fundamental operations; fractions, ratios, proportionality, and percentages; and reading and representation of data through charts and graphs. In geometry: lines, line segments, angles, circles, and triangles; bisecting line of an angle; mediator of

a segment; axial symmetry; quadrilaterals; cubes and rectangular solids; and the metric system in the computation of perimeters, areas, volumes, and time. Orientation, mobility, and geometric construction activities allow for the introduction of coding. This course is taught in French.

American Math

This course is designed as a complement to the French math curriculum, ensuring that students acquire math skills on par with the set of skills developed in the U.S. public school system. Our units of study include number properties, variable expressions, negative numbers, customary units of measure, fractions and mixed numbers, ratios, proportions and percentages, and statistics and probabilities. This course is taught in English.

Music

Students are introduced to the fundamental elements of music, which include rhythm, pitch, form, tone, solfege, and musical expression. They are encouraged to develop a sense of independent musicianship through their studies. Concepts are taught using Kodaly's techniques for sight-singing and World Music drumming methods. Students may elect to take Chorale or General Music. This course is taught in English.

Physical Education

Students are introduced to a variety of individual and team sports to encourage a lifetime of physical activity. A safe learning environment allows them to learn to compete fairly and accept winning and losing as a part of physical activity. Sports may include, but are not limited to, American football, field hockey, volleyball, basketball, Pickleball, golf, softball, and baseball. This course is taught in English.

Social Studies - Native and AELL

This course is the first half of a two-year sequence in world cultures. At the outset, students are taught the basic themes of geography. Once they have a working knowledge of them, they study early African civilizations. The next phase of the course focuses on the cultures of South Asia, including India, Pakistan, and Bangladesh, followed by the cultures of Southeast Asia. If time permits, we begin a study of Australia and Oceania. Throughout the course, students are introduced to basic note-taking skills and develop writing and research skills, completing projects that reinforce essential research skills. This course is taught in English and is for students of Native and Advanced ELL English levels.

Social Studies - ELL

Students focus on the basic themes of geography, population, cultures, and Earth's natural resources. They also learn about American culture and holidays. Students begin with the five themes of geography, which is followed by a study of African civilizations. The second half of the year focuses on the United States and Canada. Time permitting, students are introduced to Mexico and Central America. Texts used in this course include *World Explorer Tools and Concepts* and *All About the Place, Africa/The United States* (all books from the same series as geographer tools). This course is taught in English.

Grade 7 Curriculum

Art

The seventh-grade art curriculum builds upon elements covered in the sixth-grade art course, reinforcing skills such as shading, use of color, and three-dimensional form-making. Drawings from life require students to examine cylinders and ellipses. Students learn the basics of perspective and atmospheric perspective. A

range of techniques is demonstrated and implemented using familiar and new materials, such as pencils, pens, and watercolor paints. Abstraction of form is introduced toward the end of the school year. This course is taught in English and mandatory for all seventh graders.

Art Option (Elective)

This course builds upon skills taught in the required art curriculum while allowing students greater creative freedom than in the required art class. Projects often draw inspiration from diverse cultures and artists, exposing students to an array of creative expression. Projects range from mask-making to designing shoes, but all—whether in form-making, patterning, color theory, or abstraction—reinforce the core required art curriculum of the grade. This course is taught in English.

Biology and Earth Science

The seventh-grade science program follows the French curriculum but is taught in English. Students experience the French inductive style of introducing content and the American constructivist approach to student-oriented learning. The first part of this course explores the human body and its physiology as well as environmental factors that affect it. In light of the scientific method, students explore topics such as cell processes, muscular activity, nutrients and digestion, the circulatory system, and the respiratory system. The second part of the course explores plant biology and Earth science, emphasizing the Earth in the solar system, Earth's motion, and weather and climate. This course is offered to students in Native English classes. Students in non-Native classes follow the same course taught in French.

Chorale

This introductory chorale is open to young singers who show a marked interest in participating in a vocal ensemble. Emphasis is placed on developing proper vocal technique, tonal production, sight-singing skills, and musical terminology. Students learn age-appropriate choral literature representing various styles and cultures. They may elect to take Chorale or General Music. This course is taught in English.

Computer Science

Students are introduced to Code.org's Computer Science Discoveries course, which has been designed with middle school students in mind and is fully aligned with CSTA and ISTE standards. Seventh graders are introduced to web design and learn the basics of HTML and CSS. They start to see themselves as programmers and are encouraged to think deeply about sharing and using content. At the conclusion of this module, students publish and present their personal webpages. This course is taught in English.

English 7 - Native Level

The theme of this course is coming-of-age stories. We begin with the historical fiction novel *The Ruby in the Smoke* and selected short stories. Next, the class examines the process of "growing up" in Steinbeck's *The Red Pony*, Taylor's *The Road to Memphis*, and Dickens' *Great Expectations*. We end the year with Zusak's *The Book Thief* and Shakespeare's *Romeo and Juliet*. *Wordly Wise 3000, Book 8* is our vocabulary workbook; Warriner's *Elements of Writing* is our grammar text. This English course is taught at a native level.

English 7 - Advanced English Language Learners (AELL)

The goal of this class is twofold: to act as a transition for students recently in ELL and to serve as a bridge to prepare them for Native English as soon as possible. The curriculum begins with direct vocabulary instruction as provided through *Wordly Wise 3000, Book 7*, which focuses on improving students'

vocabulary by furthering their understanding of new words and concepts. It also promotes reading comprehension, especially through readings of short stories, and introduces literary terms, giving students the basic literary vocabulary of various genres and teaching them the skills of reading and writing about literature critically. The course also includes grammar, vocabulary-building, and readings that vary by need but can include Scott Foresman's *Language*; supplemental handouts; Azar's *Understanding and Using English Grammar*; *Wordly Wise 3000, Book 6*; Gary Soto's short stories; *The Giver*; *Great Expectations* (Dickens' abridged text); *Good Night, Sweet Master*; *The Boy in the Striped Pajamas*; *Romeo and Juliet*; and the poetry of Naomi Shihab Nye. This course is taught in English.

English 7 - English Language Learners (ELL)

The main goal of the ELL program is to facilitate the development of proficiency in the English language. Students are taught basic communications skills, in addition to developing reading comprehension, composition writing, pronunciation of words, and building upon vocabulary and word usage. Strategies for teaching low-beginning students differ from those used for high-beginning students who have had prior exposure to the English language. Supplemental handouts from the ELL library are used throughout the year. Texts used in the course include *Side by Side* and Azar's *Basic English Grammar*. Depending on the level of the class, one or two shorter novels are read, such as *Flora and Ulysses* and *Tuck Everlasting*, in addition to various articles and short stories. This course is taught in English.

French

The seventh-grade French course is the first year of Cycle 4 in the French teaching program. Teaching plays a major role in academic success by refining reading and writing skills that students will use throughout their academic life and career and by developing their literary and artistic knowledge. This course represents an important building block toward the construction of the independent and critical thinking that will be required for high school. The course is articulated around the following themes:

1. Journeys and Adventures

2. Imagining New Universes

3. Communicating with Others: Family, Friends, and Relationships

4. Heroes, Heroines, and Heroism

5. Man and Nature

These themes allow literary texts to be presented as a window onto our world. Students also reinforce their oral and written language skills. This French course is taught at a native level.

German I

Students in grade 7 will have the opportunity to start the German program in accordance with the guidelines of the French Ministry of National Education. The class meets two hours a week. Students will be exposed to the German language through activities in which they will speak and converse with classmates, listen to songs, and read and write short samples. In conjunction with these skills, students will acquire grammar and vocabulary basics as well as learn about aspects of German culture.

History and Geography

Students learn about an extensive period of history, from the Middle Ages to the 17th century. The course highlights the beginning of Islam, the first Arab empires (seventh to ninth centuries), the Middle Ages (11th to 15th centuries), the Renaissance, and the 17th century in France. A sub-Saharan African empire

is also studied (the Empire of Ghana, the Empire of Mali, the Empires of Songhai or Monomotapa). The geography portion of the course focuses on three topics: sustainable development; inequalities between countries from the "North" and countries from the "South"; and natural resources. Students are asked to analyze documents with an emphasis on writing. This course is taught in French.

Latin (Elective)

During this introductory year, students discover the Latin language and culture through a constant dialogue between the ancient and contemporary worlds. By studying authentic texts, students learn the principles of declension and conjugation. The course is organized around three themes: From Legend to History; Public Life/Private Life; and the Ancient Mediterranean World. It also offers an introduction to ancient Greek culture and language. This course is taught in French.

Mathematics

In seventh grade, students reinforce and extend their knowledge in the various areas of the curriculum and are introduced to logic and deductive reasoning through problem-solving (initiation to proofs). Topics covered include sequence of operations and the distributive property, sum, and difference of signed numbers; product of fractions; introduction to equations; ratios and proportionality; and reading and representation of data through graphs and charts using bar diagrams, histograms, and line diagrams. In geometry: angles and parallels; properties of triangles; medians and perpendicular heights in a triangle; bisecting line of an angle; mediator of a segment; circle circumscribed around a triangle; parallelograms; symmetries; and prisms and cylinders. The curriculum includes an introduction to coding (Tableur, Scratch, GeoGebra). This course is taught in French.

American Math

This class complements the French math curriculum to ensure that students acquire math skills on par with the set of skills developed in the U.S. public school system. Our units of study include number properties, variable expressions, negative numbers, customary units of measure, fractions and mixed numbers, ratios, proportions and percentages, statistics, and probabilities. This course is taught in English.

Music

Students continue learning about the fundamentals of music using solfege as a primary means of expanding their tonal music vocabulary. They also focus on music theory, learning aspects of melody, harmony, texture, rhythm, form, and composition. Students may elect to take Chorale or General Music. This course is taught in English.

Physical Education

Students build upon the foundation set in sixth grade and begin to apply problem-solving and conflict resolution to their activities. They learn to officiate games and apply rules when necessary. During the year, individual fitness is instructed with an emphasis on "heart-rate-zone training." All students are given a heart-rate monitor and train using the acceptable zone parameters. Gymnastics, aerobics, and endurance running are part of the year's curriculum. This course is taught in English.

Physics and Chemistry

The physics and chemistry courses follow the curriculum of the French Ministry of National Education. This curriculum is divided into the following four components:

Energy and Conversion - Forms of energy, energy efficiency of electrical-mechanical converter, building and design of basic electrical

circuits (serial and bypass), notion of electric current, and electrical safety awareness

Structure and Transformation of Matter - Physical states of matter (microscopic analysis in the case of pure substance), experiment design of solubility and miscibility (homogeneous and heterogeneous), differentiating chemical change from physical change, perform tests to discover properties of chemical compounds, link between mass and volume for gas or solid

Motion and Interaction - Average speed (uniform motion), forms of interaction (contact forces and at-a-distance forces), and mechanical motion (straight line, circular, uniform, and accelerate motion)

Signals of Communication and Observation - Light, source of light, diffuse reflection, linear propagation and ray model of light, nature of signal, and nature of information

Social Studies - Native Level

This course examines East Asia, the Middle East, Latin America, and Canada. The primary text is *World Cultures*; however, historical novels, world and regional maps, primary-source readings, and Internet activities with selected websites are also used. Current-events reports related to unit study are an important part of the course. This class is taught in English and designed for students in the Native English course.

Social Studies - AELL

This level follows the Native course study in content (East Asia, the Middle East, Latin America, and Canada). Students are introduced to cultures through history, geography, cartography, economics, art, literature, music, and religion. A number of class projects are dedicated to discussion of current events and to guided research of assigned topics. Texts include *World Studies: The Ancient World*, *World Explorer: Asia and the Pacific*, *World Explorer: The U.S. and Canada*, and *World Explorer: Latin America*. This course is taught in English.

Social Studies - ELL

Students learn about American culture, holidays, personalities, and inventors. They also develop listening and speaking skills. Students are exposed to the same curriculum within their language capabilities as the Native and AELL social studies program. Texts used include *A First Look at the Place* and *Country-Regions USA*, by Milada Broukal. The course also uses videos and documentaries. This course is taught in English.

Spanish I

Students in grade 7 will have the opportunity to start the Spanish program in accordance with the guidelines of the French Ministry of National Education. The class meets two hours a week. Students will be exposed to the Spanish language through activities in which they will speak and converse with classmates, listen to oral documents, and read and write short samples. In conjunction with these skills, students will acquire grammar and vocabulary basics as well as learn about cultural aspects of Spanish-speaking countries around the world.

Spanish 7 for Native Speakers

Students in grade 7 who speak Spanish fluently will have Spanish class two hours a week, during which they will practice the language using a variety of different documents (films such as *Conducta* and *Tadeo Jones*, readings such as *Manolito Gafotas* or *Fray Perico y su borrico*) as well as through an array of diverse oral and written activities.

Grade 8 Curriculum

Art

The curriculum takes an in-depth look at color theory and pursues the development of abstract representation through a variety of drawing and painting exercises, such as blind-contour drawing and painting, and by representing words or phrases through abstract forms and colors.

In other projects, students build upon their knowledge of perspective by applying one-point perspective to cubes. Students are encouraged to push the boundaries of their creativity as they realize the goals of each lesson. This course is taught in English and mandatory for all eighth graders.

Art Option (Elective)

This elective course builds upon skills taught in the required art curriculum while allowing students greater creative freedom. Projects often draw inspiration from diverse cultures and artists, exposing students to an array of creative expression. Projects range from mask-making to designing shoes, but all—whether in form-making, patterning, color theory, or abstraction—reinforce the core required art curriculum of this grade. This course is taught in English.

Biology and Earth Science

This class follows the French curriculum in biology and geology. The year is divided into four parts that cover the internal activity of the Earth, reproduction (asexual and sexual) in plants and animals, the human reproductive system, and puberty. Earthquakes, volcanoes, plate tectonics, and the geologic time scale are explained using numerous modeling labs and short simulation visuals. The curriculum focuses on scientific methodology as well as on inquiry-based investigations and experiments. This course is offered to students in Native English classes. Students in non-Native classes follow the same course taught in French.

Chorale

This advanced chorale course continues to develop skills introduced in previous chorale courses. In addition to proper vocal technique, further emphasis is placed on singing expressively, producing good choral tone, and sight-singing independently. Music is age-appropriate and chosen to challenge and inspire students, while encompassing a variety of styles. Students may elect to take Chorale or General Music. This course is taught in English.

Computer Science

Eighth graders continue their work in Code.org's middle school course, Computer Science Discoveries, which is fully aligned with CSTA and ISTE standards. Students learn basic programming concepts and apply these to developing animations and games using JavaScript. This unit integrates math and geometry with programming constructs, while simultaneously allowing students to exercise and display their creativity. This course is taught in English.

English 8 - Native Level

The theme of this course is the individual in society. The literature studied presents the individual as he or she is faced with ethical and moral dilemmas and issues of social justice, law, and governance. Texts used include *Fahrenheit 451*, *To Kill a Mockingbird*, *Animal Farm*, *Lord of the Flies*, *Julius Caesar*, and *A Tale of Two Cities*. Readings may also include selected short stories, essays, and poems. Aside from the study of vocabulary in context, the workbook *Vocabulary for the College-Bound Student* is used. The grammar and writing text used is Holt's *Elements of Language, 4th Course*. This course is taught in English.

English 8 - Advanced English Language Learners (AELL)

As with the Native eighth-grade English course, the theme for Advanced ELL is the individual in society. The literature studied presents the individual as he or she is faced with ethical and moral dilemmas and issues of social justice, law, and governance. We begin the year with selected short stories, essays, and poems. Depending on the level of English proficiency, additional texts may include original, redacted, or leveled versions of the following: *The Importance of Being Earnest*; *To Kill a Mockingbird*; *Animal Farm*; *A Tale of Two Cities*; and *Julius Caesar*. Aside from the study of vocabulary in context, the workbook *Wordly Wise 3000, Book 8* is used. Our grammar text is Warriner's *Elements of Writing*. This course is taught in English.

English 8 - English Language Learners (ELL)

As most students in grade 8 have had prior instruction in English as a foreign language, they have a basis of grammar. The curriculum is, therefore, designed to build upon the skills of grammar and reading. As with other ELL classes, students are taught correct word usage, pronunciation, writing skills, and higher-level vocabulary. Texts used in this course include *The Elements of Grammar*, *Share Your Paragraph: An Interactive Approach to Writing*, and *A Year in the Life of an ESL Student: Idioms and Vocabulary You Can't Live Without*. Literature studied includes *The Miracle Worker* by William Gibson, *Short Stories Collections: Surprises*, and poetry by Robert Frost, Emily Dickinson, and other American poets. This course is taught in English.

French

Eighth grade is the central year of Cycle 4. Students develop their critical thinking and reinforce their oral and written linguistic skills through the study of different literary genres and artistic forms. This course is articulated around the following themes:

- Knowing Yourself
- Being an Active Member of Society
- Developing a Creative Outlook
- Changing the World

Students enrich their knowledge through interdisciplinary projects. This French course is taught at a native level.

German II

This course focuses on the basics of German grammar, specifically cases and the indicative form. The course aims to develop linguistic, oral, and written communication. Students acquire vocabulary necessary to have a simple conversation and learn about the holidays in German-speaking countries.

History and Geography

Students learn about the history of the 18th and 19th centuries. The geography portion of the course focuses on globalization. Students learn to use maps, images, texts, and artistic works, as well as practice writing an argument. This course is taught in French.

Latin I (Elective)

Students continue to develop their Latin language skills and cultural knowledge by studying original texts. The course is based on a constant dialogue between the ancient and contemporary worlds and organized around three themes: From Legend to History; Public Life/Private Life; and the Ancient Mediterranean World. This course also includes notions of ancient Greek culture and language. This elective course is taught in French.

Mathematics

Students learn to multiply or divide signed numbers and fractions, compute with positive or negative exponents, and transform algebraic

expressions. They study linear equations and inequalities (which they use in problem-solving), proportionality (including graphing), percentages and rates, weighted averages in statistics, and probability (equiprobability, law of large numbers). Euclidean geometry contributes to developing in students the ability to use logic and deductive reasoning, as students are trained to write detailed proofs in the process of solving problems. Topics covered include the Pythagorean theorem, right angles and circles, distance and circle problems, cosine of an acute angle, dilations and reductions, area and volume of pyramids and cones, and geometric transformation (rotation, translation). Students start coding projects using Tableur, Scratch, and GeoGebra. This course is taught in French.

American Math 8 - Algebra I

This course is equivalent to an American grade 9 course. It is intended for the most advanced grade 8 students who are looking for an added challenge. Topics covered include real numbers (rational and irrational) and their operations and properties, algebraic expressions and open sentences, first-degree equations and inequalities in one variable, operations with algebraic expressions, ratio and proportion, geometric figures, areas and volumes, trigonometry of the right triangle, graphing linear functions and relations, writing and solving systems of linear equations, special products and factors, operations with radicals, quadratic equations and functions, algebraic fractions, probability, and statistics. This course is taught in English.

Note: Students can take Algebra I through one of two paths for eighth and ninth grades, as determined by the math department: a two-year Algebra IA/Algebra IB or a two-year Algebra I/Geometry.

Music

Students are introduced to the development of Western music as well as the medieval period through Beethoven. They explore the historical timeline of music through chant, polyphony, homophony, sonata form, and symphonies using sound recordings and research of prominent figures and compositions of each period. Students may elect to take Chorale or General Music. This course is taught in English.

Physics and Chemistry

In eighth grade, the physics and chemistry courses follow the curriculum of the French Ministry of National Education. The curriculum is divided into four components:

Energy and Conversion - Kinetic and gravitational potential energy, energy efficiency of mechanical-mechanical converter, notion of power, design of experiments on fundamental laws of electricity (for current and voltage)

Structure and Transformation of Matter - Matter change of states (microscopic analysis in homogeneous mixture case), states changing temperature, dissolution, solvent and solute notion, notion of saturation of a solute in a solution, notion of density, chemical equations, stoichiometric relationships, chemical symbols, chemical compounds, periodic table of elements, understanding of the origin of matter, distance units of measurement (International system of units, light years, etc., and conversion of the same)

Motion and Interaction - Mechanical action, notion and modelling of force (arrow, vector), deepening on average speed for uniform motion

Signals of Communication and Observation - Deepening on ray model of light

Physical Education

Students train and compete with the aim of improving individual skills and endurance in both team and individual sports. Evaluations and grades are based on comprehension and execution. Healthy-living habits are reinforced with an emphasis on nutrition and exercise. Sports include gymnastics, aerobics, volleyball, basketball, field hockey, ultimate Frisbee, golf, softball, baseball, swimming, and ice-skating. This course is taught in English.

Social Studies (All Levels)

This class introduces students to early United States history, from pre-colonial times to the pre-Civil War era. The first third of the course looks at the internal struggles the settlers faced in creating new societies that maintained their old ways of life, while attempting to eliminate the problems they endured in Europe. The middle third focuses on the concept of "forming a nation." The final third looks at the tumultuous early years of the United States. Students are expected to begin mastering the skill of note-taking as well as develop advanced research and writing skills. In addition, many classes are taught in a discussion format to encourage students to look at a situation with a critical eye. Students in the Native-level course will also develop their research and analytical skills through a research paper. In the spring, students take an extended field trip to study in and around Colonial Williamsburg, the premier living museum of America's colonial era.

Spanish II

In grade 8, students continue taking Spanish as a second language. The class meets three hours a week. Through thematic topics of daily life (presenting oneself, describing one's family, one's friends, one's activities), the Spanish program follows a progression that combines pragmatic goals (asking questions, getting and giving directions), linguistic objectives (the present tense, the subjunctive mode, the past and future tenses, the use of pronouns and prepositions), and cultural awareness (discovering the Hispanic world, its music, art, holidays, traditions, and recipes). In order to be able to communicate fully, students learn to understand, speak, read, converse in, and write in the target language.

Spanish 8 for Native Speakers

This course is intended for native and near-native speakers of Spanish and taught in Spanish. Students typically have little need to review grammar or vocabulary and learn, instead, more complex and sophisticated aspects of the language in the areas of speaking and writing. They analyze literary texts and research different aspects of the Spanish-speaking world, developing comparisons to better understand and appreciate the various cultures. Students read and discuss novels such as *Sin noticias de Gurb*. They watch movies relating to the literature, culture, and history of Spanish-speaking countries. This course meets two times a week.

HIGH SCHOOL

The High School, which includes grades 9 through 12, is located at the Harbor campus in Mamaroneck. In grades 9 and 10, students have the choice to pursue the French-American track or the international track. In the French-American track, in addition to five periods of English language study, students have two periods per week of social studies taught at the ELL, AELL, or Native level. In the international track, all subjects are taught in English, with the exception of French and Spanish language acquisition classes and the French 9 class, which are taught in the target language.

In grades 11 and 12, students may opt for the OIB program (International Option of the French Baccalaureate), a rigorous course of study in which English, history, and geography are taught in English by American teachers. Alternatively, in grades 11 and 12, students may opt to follow the IB Diploma program, in which all classes are taught in English, except for French literature. The IB track is available to both francophone and non-francophone students and to those who are fluent in English or, at minimum, proficient English Language Learners.

High School General Information

College Counseling Department: Universities in North America and the United Kingdom

The co-directors of College Counseling for universities in North America and the United Kingdom are responsible for helping parents and students with the application process to American, Canadian, and British colleges and universities. They organize college evenings, meet with parents and students for individual counseling sessions, and promote FASNY and its students to universities in the United States, Canada, and the United Kingdom.

College Counselor for French Universities and *Classes Préparatoires*

The assistant head of school is responsible for helping parents and students with the application process to French universities and *classes préparatoires*. He meets with parents and students for individual counseling sessions and organizes informational evenings.

Community Service

Students complete a minimum of 50 hours of community service over the course of their high school experience. Some students exceed 100 hours, qualifying them for the President's Volunteer Service Award. No more than five in-school community service hours per year can count towards the required 50 hours.

English Studies

Students with little or no English language background can enroll at any grade level, as English is taught at three levels: ELL (English Language Learners); Advanced ELL (good oral comprehension and speaking skills, developing reading and writing skills); and Native.

At the ELL level, students work on developing basic listening, speaking, reading, and writing skills. Students spend one to three years at this level before progressing to Advanced ELL, where they work on refining their reading comprehension and writing skills. Students may spend anywhere from one to three years in Advanced ELL before reaching the Native level. Students in Native-level classes follow a curriculum comparable to what is taught at the most competitive American independent schools in the region.

Excursions/Field Trips

Each class goes on several field trips per year. These enhance the curriculum and are an important part of the learning process. Typical

trips include visits to museums, historical sites, concerts, and theater programs. Students in grades 9 to 12 also go on extended trips of three or four days or more. All students generally travel by school bus on field trips.

Extracurricular Activities

The long, rigorous school day nonetheless allows for extensive participation in extracurricular activities. Most students become involved in our diverse program, which includes the yearbook, school newspaper, literary magazine, mathematics club, filmmaking club, drama club, Model United Nations, chorus, a cappella group, rock band, and other activities. Interscholastic varsity and JV teams include boys and girls soccer, basketball, rugby, cross-country, track and field, and tennis, as well as girls volleyball and softball and boys baseball.

Grading System and Report Cards

Number grades are used in the high school. A scale of 20 is used, with 15-20 being an A+. Most teachers do not give grades of 20 unless the work can be graded completely objectively. As the students get older, grading standards become more rigorous.

Report cards, written in French, are issued in December, March, and June. A single trimester report card, which also contains the teachers' written observations, is used for all subjects.

For FASNY students applying to U.S. colleges and universities, an American transcript is provided. The French number scores are converted to letter grades. This system is used by all French high schools in the United States.

Honors Courses

All courses in a student's chosen concentration within the French Baccalaureate diploma program are designated as honors courses.

All six courses within the International Baccalaureate diploma program are designated as honors courses, though three are chosen at the Standard Level (SL) and three at the Higher Level (HL).

Internship/Work Experience

High school students are expected to complete a minimum five-day internship at a company/ organization. This internship has to take place before the beginning of senior year and typically occurs during the 10th-grade year.

Library/Media Center

The Harbor campus has a library, which contains a sizable collection of French and English books and periodicals, as well as audio-visual equipment. Each student has the opportunity to visit the library and become familiar with its contents and services.

Music, Theater, and Art

FASNY recognizes the importance of the arts in a well-rounded education and sponsors various student productions throughout the school year. These include musical-theater productions, plays, art exhibitions, assemblies, concerts, and presentations.

Third Language

Students who have studied a third language in middle school can keep studying it throughout high school. Elective classes are also available in Latin and in a fourth foreign language (by enrolling in the CNED).

School Counselors

The school counselors counsel students individually or in groups. They work closely with the division heads, the deans of students, teachers, and student monitors, who refer students to them. In coordination with the division heads, they will call in parents for a

conference. A school counselor generally meets with students during study hall or a lunch period. In case of an emergency, a student may meet with the counselor at any time, and teachers will be informed as soon as possible. In coordination with the division heads and the deans of students, the school counselor organizes drug-prevention, conflict-resolution, and AIDS-awareness workshops.

Psychologist

In addition to the counselor, a psychologist is available to all high school students on Fridays.

Student Support Team (SST)

If a teacher sees a student at risk because of academic performance or psychosocial behavior, a Student Support Team (SST) meeting is organized. SST meetings may include the child's parents, his/her teachers, the school counselor, the psychologist, members of the administration, the speech therapist, and anyone else working directly with the child. The team develops an action plan with strategies to support the student, academically and psychosocially. If further academic or psychosocial evaluation or therapy is necessary, a referral to outside resources will be made. Outside therapists and learning specialists who work with students are invited to SST meetings.

Tests and Exams

Standardized Tests - The Comprehensive Testing Program, commonly called the ERB, is a nationally administered annual testing program that measures academic reasoning and achievement. All Native-level English speakers in grade 9 take this test at the beginning of the third term.

Diplôme National du Brevet - Ninth graders enrolled in the French-American track take this French national exam, organized in the United States by the Cultural Services of the French Embassy, which tests students' mastery of French language, history, geography, civics, and mathematics. When combined with a student's academic results from that year, it leads to a diploma called the *Diplôme National du Brevet*. Three practice exams are given throughout the year in order to prepare students for the Brevet.

Bac Blanc/Mock Exam Week - All 11th-grade French Bac students take practice exams in preparation for the Baccalaureate in French as well as in one of their specialty courses. Twelfth-grade students practice for all Baccalaureate exams (French Bac or IB) during a one-week period after the February break.

Devoir Surveillé - In 12th grade, all French Bac students take weekly curricular tests in all of their core subjects on a rotating basis. These assessments last three to four hours and begin in the second month of the school year.

PSAT and SAT, or ACT - Students applying to universities in North America must take the Scholastic Aptitude Test (SAT) in English and Mathematical Reasoning in 11th and/or 12th grade. Students in the 11th and 12th grades can take the SAT at various times during the school year. Students also take the PSAT (Preliminary Scholastic Aptitude Test) in 10th and 11th grade in order to prepare for the SAT. The ACT, an alternative to the SAT, is a content-based achievement test in English, mathematics, reading, science, and writing.

SAT II - Students applying to universities in North America usually must take two or three SAT II subject tests in disciplines of their choosing.

Advanced Placement (AP) - Students who have attained a sufficient level in Spanish and German may sit for Advanced Placement examinations, which are recognized by American universities, often for credit. AP exams are usually given during the month of May.

Baccalaureate Diploma Exams - At FASNY, students must choose between two diploma program tracks, as detailed below.

The French Baccalaureate

FASNY follows the academic curriculum established by the French Ministry of National Education, which develops the examinations for each subject and appoints the examiners. Each examination consists of a series of essays requiring significant in-depth analysis. Students are also required to sit for two to four oral examinations. The 2020 Bac will be given over a two-week period between mid-May and mid-June. Students choose between the ES Concentration (Economics, Social Sciences, History/Geography, and Philosophy) and the S Concentration (Mathematics, Biology and Natural Sciences, Physics, and Chemistry). Courses in both concentrations are designated as honors classes.

Students entering grade 11 will choose three from among six "specialty courses" and continue with two of those in grade 12. They can choose from among mathematics, physics-chemistry, biology-geology, economics-social studies, history-geography, geopolitics-political science, and foreign languages-literature-culture. There are also elective courses that they can take.

OIB Honors Option - At FASNY, students who are proficient in English may elect the American Option of OIB (*Option Internationale du Baccalauréat*). This program provides a rigorous curriculum in English literature and an integrated history/geography course of study taught by American faculty at an honors level. OIB is not a separate diploma but rather a specialization within the framework of the French Baccalaureate. Students prepare for the OIB during the 11th and 12th grades. At the end of 12th grade, students take the Baccalaureate exam in their chosen concentration, as well as rigorous exams (written and oral) in both English literature and history/geography. The examiners for the OIB are approved by the College Board. Note: The OIB is part of the French Baccalaureate and should not be confused with the International Baccalaureate.

The International Baccalaureate (IB) Diploma

FASNY follows the academic curriculum established by the International Baccalaureate Organization (IBO). The IBO develops external examinations for each subject that are marked by trained examiners. It also provides marking services, as well as moderation for a number of required internal written and oral assessments that are completed throughout the 11th and 12th grades. The external IB exams are given over a two-week period in early May.

The Diploma Program (DP) curriculum is made up of six subject groups and the DP core, comprising Theory of Knowledge (TOK); Creativity, Activity, Service (CAS); and the Extended Essay (EE). Six courses are chosen from among six groups:

Group 1: English Literature, or school-supported self-study in a native-tongue literature

Group 2: French Literature or Language Acquisition (Spanish or German)

Group 3: Economics or History

Group 4: Biology, Chemistry, or Physics

Group 5 for the class of 2020: Mathematical Studies Standard Level, Mathematics Standard Level, or Mathematics Higher Level

Group 5 for the class of 2021: Mathematical Applications and Interpretation Standard Level, Mathematical Analysis and Approaches Standard Level, or Mathematical Analysis and Approaches Higher Level

Group 6: Elective course (a second Social Science or Experimental Science, or Language Acquisition)

Three courses will be at the Standard Level and three at the Higher Level.

High School Curricula

Grade 9 Curriculum

Students choose to follow either the French-American track or the International track, in which mathematics and the sciences are taught in English. Many ninth-grade courses co-seat students, regardless of track. Track-specific courses are designated below, next to the course name.

Art 9

Projects assigned build upon the skills developed in the middle school art curricula. The principles of art are reviewed as students are introduced to new materials and techniques. Some assignments provide students with only a few rules pertaining to theme, size, and three-dimensional appearance, thereby fostering students' artistic license and requiring them to pursue their own vision. Other projects, such as a large still-life, are a culmination of the study of composition, light and shading, perspective, and the rendering of three-dimensional forms. This course is taught in English and mandatory for all ninth graders.

Art Option 9 (Elective)

This elective course builds upon skills taught in the required art curriculum while allowing students greater creative freedom than in the required art class. Projects often draw inspiration from diverse cultures and artists, exposing students to a variety of creative expressions. These range from mask-making to designing shoes, but all—whether in form-making, patterning, color theory, or abstraction—reinforce the core required art curriculum of the grade. This course is taught in English.

Biology 9 (French-American Track)

The program is organized around four core topics. In Human Diversity and Unity, students study the origin of an individual's characteristics, the origin of human diversity, chromosomes, and genetic information (DNA). Human Evolution and History of the Earth focuses on the early formulation of the theory of evolution of living things through geologic time (genetic explanations, natural selection, mass extinctions, and classification of living things). The Infectious Disease and Protection of the Organism component of the course leads students to understand the way the body reacts to contamination (immune system, AIDS, and allergies). The course includes a study in Human Responsibilities in Health and Environmental Issues. This course is taught in French.

Chorus

This advanced chorale course continues to develop skills introduced in previous chorale courses. In addition to proper vocal technique, further emphasis is placed on singing expressively, producing good choral tone, and sight-singing independently. Music is age-appropriate and chosen to challenge and inspire students while encompassing a variety of styles. Students may elect to take Chorus 9 or Music 9. This course is taught in English.

Computer Science

Building upon the Computer Science Discoveries course taught in middle school, students are introduced to Computer Science Principles in high school. This is an AP-level course and fully aligned with CSTA, ISTE, and College Board standards.

Ninth graders continue to add to their repertoire of programming skills and learn the basics of developing applications using Code.org's App Lab platform. In doing so, students are encouraged to see themselves as problem-solvers, using technology to solve

personal and broader social problems. In this course, students are expected to design and create a working application. This course is taught in English.

English 9 - Honors

In this challenging course, students will study a wide range of texts and genres within American literature from the 17th century to the present, covering fiction, poetry, drama, nonfiction, and film. They will have many opportunities to improve their writing through diverse expository and narrative formats and to practice their oral-presentation skills through a variety of assignments, ranging from debates to dramatic monologues. Moreover, there will be a wide range of creative assignments. Students will engage in early preparation for the PSAT exam through vocabulary development (*Wordly Wise*) and regular attention to grammar through frequent writing practice. The texts and authors covered include, but are not limited to, *Slaughterhouse-Five* by Kurt Vonnegut, "Of Plymouth Plantation" by William Bradford, "Young Goodman Brown" by Nathaniel Hawthorne, *The Catcher in the Rye* by J.D. Salinger, the Declaration of Independence by Thomas Jefferson, *The Great Gatsby* by F. Scott Fitzgerald, essays by Emerson and Thoreau, "Song of Myself" by Walt Whitman, *Into the Wild* by Jon Krakauer, poetry of the Harlem Renaissance, *A Raisin in the Sun* by Lorraine Hansberry, and *A Confederacy of Dunces* by John Kennedy Toole. This course is taught at a Native level.

English 9 - Advanced English Language Learners (French-American Track)

This goal of this flexible class taught in English is twofold: to act as a transition for students recently in ELL and to serve as a bridge to prepare them for regular English as soon as possible. The curriculum begins with direct vocabulary instruction, as provided through *Wordly Wise 3000, Book 9*, to further understanding of new words and concepts. Pronunciation is also a focus, as the course hopes to develop confidence in the students' spoken English. Intermediate English 9 mainly promotes reading comprehension and the skills of writing about American literature critically using the following works: *The Curious Incident of the Dog in the Night-Time*; *The Absolutely True Diary of a Part-Time Indian*; *A Raisin in the Sun*; and *Fahrenheit 451*. Film versions of novels/plays studied will help students with understanding the role of adaptation of artistic works. American contemporary short stories begin the year as students start to feel comfortable with reading critically and closely. For the same reason, a unit looking at the poetry of Naomi Shihab Nye and Langston Hughes will be presented in the early days of the course. Nonfiction works are utilized as students' research and technology skills are developed.

English 9 - English Language Learners (French-American Track)

Most students arrive in grade 9 ELL with prior English instruction and a basis of grammar. The curriculum is, therefore, designed to build upon the skills of grammar, writing, and reading. As with other ELL classes, students are taught correct word usage, grammar, pronunciation, writing skills, and higher-level vocabulary. Texts used in this course include graphic novels such as *March* by John Lewis, versions of Mark Twain's *Huckleberry Finn* and Charles Dickens' *Great Expectations,* and the novel *War Horse* by Michael Morpurgo. Azar's *Understanding and Using English Grammar* is used to improve sentence structure and usage. Poetry by Langston Hughes is analyzed, as are Emily Dickinson's short poems. Short stories by Gary Soto and Ray Bradbury help develop reading comprehension. This course is taught in English.

European History and World Geography I (French-American Track)

This course covers the period from 1914 to the present. The geography portion of the course focuses on France and the European Union. Students are asked to think critically when analyzing documents. They are expected to write a page-long essay using their personal knowledge as well as information presented in a variety of documents. The civics education portion of the course exposes students to questions related to citizenship as they study current events in today's world. This course is taught in French.

World History 9 (International Track)

The ninth-grade World History course provides the foundation for the IB Diploma program history course and, with 10th-grade U.S. History, offers students the skills and content they need to carry them into their post-secondary studies. The curriculum is designed to increase students' understanding of themselves and of contemporary society by encouraging an informed and balanced reflection on the past. In this, the course fosters the international-mindedness central to FASNY's educational mission and the IB philosophy. The course illustrates and explores the six key concepts of history in the IB—change, continuity, causation, consequence, significance, and perspective. Content is organized thematically and chronologically, emphasizing the patterns and connections of human interaction across cultures from the early modern period to today. Case studies from different regions encourage students to view topics from multiple perspectives. For example, they will study the origins, development, and impact of the Industrial Revolution in Britain, as well as the development of industrialization in Japan and the mineral revolution in South and southern Africa. They will thus understand both the development of societies over a given period and how different groups experienced technological, social, and political developments through inter-regional connection.

Research Skills and Global Literacy 9 (International Track)

This project-based course focuses on developing inquiry and critical-thinking skills in the humanities. Students will gain mastery in research techniques and track current events with an eye toward recognizing geo-economic and geo-political patterns applicable to their studies in World History. Through group inquiry projects, students will explore the intersections of various disciplines, such as the role of science and technology in history, demography and the environment, or historical perspectives through art. This class meets once a week.

French 9 Literature and Composition - Honors (French-American Track)

The ninth-grade French course completes the program of Cycle 4 by developing four main themes:

- Knowing Yourself (autobiography)
- Being an Active Member of Society: Individuals and Power (theater)
- Developing a Creative Outlook (poetry)
- Changing the World (science fiction)

This is also the final year for students to prepare for the oral and written French national exam, *le Brevet National des Collèges*. Students reinforce and deepen their language skills. The course covers a variety of literary genres and different texts, emphasizing self-expression, the ability to argue, science fiction, and media literacy. The course allows students to make connections with other subjects through artistic, historical, and philosophical questioning. This French course is taught at a native level.

French 9 (International Track)

The International program is intended primarily for students wishing to eventually take the International Baccalaureate (IB) examination. The objective of the course is to expose students to a wide variety of media (literature, documentaries, movies, newspapers) from around the world and to develop their critical-thinking skills to prepare them for the demands of the IB French Literature and Culture course. Knowledge is reinforced through oral interactions, collective debates, and presentations. Similar to the IB, assessments of written work are graded according to the following criteria: comprehension; analysis; and language. Non-native French speakers will find in this course a favorable framework in which to progress in French. Native speakers will be able to approach new notions of language and literature in a dynamic and interactive way. The curriculum is built around units focusing on four literary genres—novel, theater, poetry, and media—and students study complete works as well as excerpts. The grading is out of 20. Final exams assess the students on the concepts acquired during the school year through both written and oral tests.

German III

Students in this course are expected to expand their grammar, including verbs in the indicative and subjunctive forms, passive and active voice, and complex sentences, to gain a better understanding of the language. They also learn the history of Germany from 1933 to 1990.

Language Acquisition: French or Spanish (International Track)

Students are introduced to the study of either the French or Spanish language within a cultural context; the emphasis is on the development of all four communication skills of reading, writing, speaking, and listening through the learning of language mechanics. The one-year course will be articulated around global themes such as:

• Individuals and Society: Daily routines, education, food and drink, personal details, appearance and character, physical health, relationships, shopping

• Leisure and Work: Employment, entertainment, holidays, media, sport, technology, transport

• Urban and Rural Environment: Environmental concerns, global issues, neighborhood, physical geography, town and services, weather

Grades for this course will be determined by class participation and oral presentations, written quizzes and exams, homework assignments, and the reading of a variety of documents, including visuals.

The Common European Framework of Reference (CEFR) defines levels of proficiency that allow students' progress to be measured at each stage of learning and on a life-long basis. It describes in a comprehensive way what language learners have to learn in order to use a language for communication and what knowledge and skills they have to develop to be able to communicate effectively. The description also covers the cultural context in which language is set. The framework defines levels of proficiency as follows: A1 - Beginner; A2 - Elementary; B1 - Intermediate; B2 - Upper Intermediate; C1 - Advanced; C2 - Mastery. At the end of ninth grade, students should attain the A2 (Elementary) level.

Latin II (Elective)

Students expand their learning of the Latin language and culture. At the end of ninth grade, students will have mastered enough essential grammatical skills (morphologic and syntactic) to understand and translate a short and accessible Latin text. They also will be able to put a literary text into its historical and cultural

context. Four themes are studied: From the Republic to the Principate; The Roman Empire; Familial, Social, and Intellectual Life; and the Mediterranean World (especially the relationship between Rome and Greece). The course also includes notions of ancient Greek culture and language. This elective course is taught in French.

Mathematics 9 (International Track)

This course will prepare students for the IB Mathematics Higher Level and Standard Level courses. In grade 9, the focus is on the concepts of number, algebra, and coordinate geometry at the core and extended levels. Objectives include:

• Encouraging the development of mathematical knowledge as a key life skill and as a strong basis for more advanced study

• Building students' confidence by helping them develop competence and fluency with mathematical concepts, methods, and skills, as well as a feel for numbers, patterns, and relationships

• Placing a strong emphasis on solving problems and presenting and interpreting results

• Gaining an understanding of how to communicate and reason using mathematical concepts

Integrated Mathematics 9 (French-American Track)

This course has three objectives: to reinforce and extend the knowledge acquired in previous grades; to enable students to use specific mathematical methods and ways of thinking; and to develop the ability to use mathematics in everyday life and in other disciplines.

Topics covered include an introduction to functions (generalities and graphs), the linear and affine functions, and the slope formula; mean, median, and quartiles in statistics; probability (tree diagram); computations with square roots; algebra (factoring and distributing); linear equations and inequalities; and systems of two linear equations. Topics in geometry include trigonometry of a right triangle, the Thales theorem, dilation and reduction, inscribed angles, regular polygons, sections of solids (prisms, cylinders, cones, and spheres), and areas and volumes. Coding projects include creating programs designed to complete a simple mission or solve a simple problem using Tableur, Scratch, and GeoGebra. This course is taught in French.

American Math: Geometry (French-American Track Elective)

This course is equivalent to an American grade 10 course. Topics covered include essentials of geometry, logic, proving statements in geometry, congruence of line segments, angles and triangles, transformations and the coordinate plane, geometric inequalities, slopes and equations of lines, parallel lines, quadrilaterals, the geometry of three dimensions, similarity, geometry of the circle, locus, and construction. This course is taught in English. Except in rare cases, Algebra I is a prerequisite.

American Math: Algebra IB

This is the second year of the Algebra IA/IB course. It is designed for students who took Algebra IA in grade 8.

Music 9

Students continue their study of Western music and begin learning about the Romantic era through the 20th century. They also study modern classical music, jazz, and popular forms such as rock-and-roll using listening examples, sound recordings, and research of notable figures and compositions. Students may elect to take Chorus 9 or General Music. This course is taught in English.

Physical Education

Students begin to understand the importance of physical-skills improvement relevant to a chosen sport. They learn good-practice habits and are encouraged to engage in as many activities as possible. Sports include aerobics, street hockey, gymnastics, badminton, golf, and indoor tennis. This course is taught in English.

Physics and Chemistry 9 (French-American Track)

In the ninth grade, the physics and chemistry courses follow the curriculum of the French Ministry of National Education. The curriculum is divided into four components:

Energy and Conversion - Use of mathematical relation of kinetic and gravitational potential energy, use of mathematical relation of power, law of conservation of energy, Ohm's law, residential energy consumption calculation

Structure and Transformation of Matter - Deepening of balancing chemical equations, acid-base character of substance, notion of ionic compound, pH measurement (hydrogen ions), chemical reaction between acid solution and metals, order of magnitude of the universe, universality of scientific laws in the universe

Motion and Interaction - Newton's gravitational law, weight, gravity

Signals of Communication and Observation - Acoustic signal, propagation of sound properties, notion of frequency, infrasound and ultrasound, use of light or sound for information transmission

Sciences in the International Track

All students in this track take chemistry, biology, and physics over the course of two years. In ninth grade, students take two trimesters of chemistry and one trimester of biology. In 10th grade, they will take a second trimester of biology and two trimesters of physics.

Chemistry 9

Course Objectives:

• Encourage a wider interest in chemistry as a science and promote the understanding and relevance of this science in our daily lives

• Develop the student's ability to properly use different experimental techniques that help observe, analyze, and interpret chemical reactions in the laboratory

• Equip students with the knowledge and skills that will help them succeed in future studies

Course content includes measurement and data processing, the particulate nature of matter, atomic structure and the periodic table of elements, stoichiometry, chemical reaction rates, redox, and organic chemistry.

Biology 9 and 10

The course focuses on developing a broad general understanding of biology by expanding students' understanding of how science works and is applied to acquire knowledge about the natural world.

Course Objectives:

• Acquire and demonstrate knowledge and understanding of scientific facts, concepts, and techniques

• Develop scientific investigation skills through inquiry-based laboratory work

• Analyze and evaluate data, techniques, and scientific explanations

• Communicate effectively through the language of science

• Develop awareness of the need for accuracy, precision, objectivity, and integrity

• Recognize the utility, ethical considerations, and limitations of science

Course content includes laboratory skills, the organization of life, biochemistry, cell structure

and function, photosynthesis, reproduction and development, genetics, evolution, homeostasis in organisms, ecology, biodiversity, and the positive and negative human impact on the environment. These courses will prepare students for the IB biology, chemistry, and physics courses.

Spanish III

In grade 9, students review the material covered in the previous year, such as the present tense and the different types of verbs (reflexive, stem-changing, irregular conjugations). Linguistically, they enrich their vocabulary as well as their verb tenses (the subjunctive mode, the past and future tenses) in order to describe their plans, give commands, express a possibility or doubt, and make hypothetical statements. Through a variety of oral exercises (dialogues, role-play, presentations), students work on their speaking and conversation skills. They also improve their reading and writing abilities through topics ranging from their family and friends to their preferences and habits. Students continue to explore the culture of different Spanish-speaking countries, notably through artistic masterpieces. The course meets three times a week.

United States History I
(French-American Track - Native Level)

This course covers United States history from the pre-Civil War era to the Great Depression. The first third of the course is an in-depth study of the issues that resulted in the Civil War, the Civil War itself, and the Reconstruction Era that followed. The middle third explores the changing world due to the Industrial Revolution and the immigration policies that developed in the United States as a result. The final third builds on earlier themes as the nation moves into the 20th century and becomes a major player on the world stage. Students are expected to master note-taking during classes taught primarily in a discussion format. They also develop their research and analytical skills through a research paper. This course is taught in English at a native level.

United States History I
(French-American Track - AELL and ELL)

Students gain an understanding of the changes that took place in the United States from the eve of the Civil War to the eve of World War II and learn to identify the key individuals and events that were agents of these changes. They work to develop writing, research, and critical-thinking skills as tools to analyze the transformations that took place during this period in the nation's history. Students practice public speaking by participating in class discussions and giving oral presentations as well as develop their research and analytical skills through a research paper. This course is taught in English at an AELL to ELL level, as needed.

Grade 10 Curriculum

Art I (Elective)

Using a problem-solving approach, students improve their drawing skills, gain a deeper understanding of color, and learn to organize more meaningful compositions. They create drawings, collages, prints, paintings, and sculptures in order to communicate personal ideas and solve visual problems. One important area of focus involves the depiction of pictorial space. Overlapping, linear, and atmospheric perspective and the rendering of volume are explored to equip students with the tools they need to construct pictorial space with clarity and confidence. Students undertake both in-class and out-of-class projects and discuss their works during class critiques. In addition, they begin to build a portfolio that shows the range, depth, and quality of their artistic knowledge. This course is taught in English.

Biology/Earth Science (French-American Track)

The biology and Earth science curriculum at the high school aims to provide a solid foundation in science. The course has three major objectives:

- Acquire and deepen the mastery of scientific knowledge and reasoning modes and, more broadly, attain a scientific education based on the fundamental concepts of biology and geology
- Develop critical thinking and civic education by understanding the current world and its evolution through a scientific lens
- Prepare students for the demands of higher education in the sciences and STEM jobs

To achieve these objectives, the biology and Earth science curriculum in grade 10 is organized around three major themes:

1) Earth, Life, and Evolution: Through research and rigorous analysis, science builds a coherent understanding of the Earth, the history of its formation, its current state, and its evolution.
2) Contemporary Issues of the Planet: Students learn about major issues facing humanity in the 21st century, such as environmental and sustainable development, resources, and risk management.
3) The Human Body and Health: Selected themes give students a better understanding of the body and how it interacts with the environment in order to develop a global approach to public health challenges. In this field, the exercise of critical thinking is increasingly important in the face of mounting doubts and the questioning of scientific facts.

This course is taught in French.

Computer Science

Students continue their work in Code.org's Computer Science Principles, an AP-level course that is fully aligned with CSTA, ISTE, and College Board standards. Tenth graders will add to their repertoire of programming skills and learn the basics of developing applications using Code.org's App Lab platform. In doing so, they are encouraged to see themselves as problem-solvers, using technology to solve personal and broader social problems. In this course, students are expected to design and create a working application. In addition, they will be taught the foundational concepts of computer science and explore how computing and technology can impact the world. This course is taught in English.

Economics and Social Sciences (French-American Track)

This course has an exploratory curriculum that seeks to expose high school students to new disciplines they have not encountered in their prior studies. It aims to provide students with the principles of economics, sociology, and political science essential to the education of all citizens who seek to understand the workings of the economy and society in which they live; to enable them to discover a new academic discipline and help them make enlightened decisions regarding their 11th- and 12th-grade education; and to provide them with some essential concepts and ways of thinking about economics and sociology that will facilitate their studies as high school juniors and seniors and, later, at the university level. This course is taught in French.

English 10 - Honors

This course is a survey of world literature and philosophy. It begins with a study of the epic, including *Gilgamesh*, Homer's *Iliad*, and Virgil's *Aeneid*. The concentration on ancient Greek literature also includes a close reading of *Oedipus Rex* and an examination of tragedy. The year continues with excerpts from Dante's *Inferno* and a close reading of Shakespeare's

Macbeth and Milton's *Paradise Lost*. The course concludes with a reading of contemporary works, including selected stories from Phil Klay's *Redeployment* and Ta-Nehisi Coates's *Between the World and Me*. Throughout the year, the works are examined in light of key philosophers of the Western world—such as Plato, Aristotle, Descartes, and many others—using Kolak's *Lovers of Wisdom* as a basic text. This English course is taught at a Native level.

English 10 for Advanced English Language Learners (French-American Track)

This goal of this flexible class taught in English is twofold: to act as a transition for students recently in ELL and to serve as a bridge to prepare them for regular English as soon as possible. The curriculum begins with direct vocabulary instruction, as provided through *Wordly Wise 3000, Book 10,* to further their understanding of new words and concepts. Pronunciation is also a focus, as the course aims to develop confidence in the students' spoken English. Intermediate 10 also promotes reading comprehension and the skills of writing about world literature critically using the fictional works *Of Mice and Men* by John Steinbeck, *The Kite Runner* by Khaled Hosseini, *The Fifth Child* by Doris Lessing, and Shakespeare's *Romeo and Juliet*. Film versions of novels/plays studied will help students with understanding the role of adaptation of artistic works. Global and contemporary short stories begin the year as students start to feel comfortable with reading critically and closely. For the same reason, a unit looking at the poetry of Naomi Shihab Nye will be presented in the early days of the course. Nonfiction works are utilized as students' research and technology skills are developed. A unit co-taught with FASNY's librarian helps students to work with various books, journals, and historical articles on the American Great Depression and Afghanistan. This course is taught in English.

English 10 for English Language Learners (French-American Track)

As most students in grade 10 ELL have had prior English instruction, they have a basis of grammar. The curriculum is, therefore, designed to build upon the skills of grammar, writing, and reading. As with other ELL classes, students are taught correct word usage, grammar, pronunciation, writing skills, and higher-level vocabulary. Texts used in this course include graphic novels such as *Gulliver's Travels* by Jonathan Swift and the adapted novel (Peter Kuper), as well as *The Metamorphosis* by Franz Kafka. Azar's *Understanding and Using English Grammar* is used to improve sentence structure and usage. Poetry by Mary Oliver is analyzed, and, for dramatic literature, students read an abridged version of Shakespeare's *Romeo and Juliet*. Short stories by Hemingway and Bradbury also help to develop reading comprehension. This course is taught in English.

European History and World Geography II (French-American Track)

In the history portion of the course, students study several key themes and events in history, including citizenship in Athens and Rome, medieval European societies (11th-13th centuries), the Renaissance, the French Revolution, and the revolutionary movements in Europe in the first half of the 19th century. The geography portion focuses on the study of sustainable development. Several themes are used to provoke a deeper conversation about the subject, including how humans can share the wealth of the Earth, the plausibility of feeding the entire planet, how we should manage our water resources, and, finally, urban life and sustainable development. This course is taught in French.

French 10 Literature and Composition - Honors (French-American Track)

This course is the first in a two-year sequence focused on the content and exercises required for the oral and written Baccalaureate exam in French (EAF), which students take at the end of 11th grade. Theater, the novel, and persuasive essays are some of the main themes studied in the context of selected classics of French literature. Students are trained in critical thinking, analytical reading and writing, the crafting of literary commentaries, creative writing, and essay writing. This French course is taught at a native level.

French 10 (International Track)

The French 10 course of the International program is the second year of the curriculum. Students will deepen their knowledge of the concepts studied in grade 9, in particular their critical-thinking skills and subtleties unique to literature and the French language. In writing, vocabulary is reinforced and becomes more precise. The goal is to prepare students for the IB written and oral evaluations of 11th grade (oral presentation, text analysis, and written composition), and the focus will be on method.

The genres studied and discussed include the novel, poetry, and drama, as well as polemical discourse in the media. Works will be selected according to the IB guidelines for French-Speaking World Heritage or translations. New students can easily join the course, whose cultural and literary openness allows them to use previous skills and knowledge and to go at their own pace.

German IV

Students study literary texts (both poetry and prose) and are asked to explain their grammatical structures as well as initiate discussions. Another key theme of the course is music, which covers Bach through contemporary rap. This course is taught in German with some grammatical explanations in French.

Latin III (Elective)

Students study the Roman world through four themes: Mankind and the Animal Kingdom; Mankind and the Divine; The Self and Others; and the Mediterranean Sea: Travel, Exploration, and Discovery.

Texts highlight the essential aspects of the political, historic, moral, literary, and artistic cultures of the time. Syntax and morphology are strengthened, and students are expected to expand their vocabulary using a Latin-French dictionary as a resource. Connections with other texts from the French and English curricula are made as often as possible. The course also covers notions of ancient Greek culture and language. This course is taught in French.

Integrated Mathematics 10 (French-American Track)

Topics covered in this course include number sets and their properties, as well as variations and graphing of the following functions: linear, reciprocal, quadratic, cubic, square, homographic, and trigonometric. Also, algebraic and rational expressions, factoring, and algebraic and graphic resolution of nonlinear equations and inequalities. Statistics and probability: percentage increase and decrease, measuring central tendency and dispersion, frequencies distribution, simulation, and sampling and range of fluctuations. Sample space, events, equiprobable spaces, finite probability spaces, intersection, and union of events. In Euclidean geometry: trigonometry of a right triangle, plane and space properties, plane configurations, straight lines and planes in 3D, parallelism, intersection of solids by a plane, areas, and volumes. The emphasis is placed on training in logical reasoning in analytic and vector geometry: equation of a line, vectors

(coordinates, sum, difference, multiplication by a real number, norm, determinant), and systems of linear equations. Algorithms: basic (variables, input, output, expressions, functions), conditional statements, iterative loops, pseudo-code. Application in programming with Python language. Set mathematical notation and logical reasoning (connectors, negation, truth tables, propositions, logical implication). Graphing calculator, geometry software. This course is taught in French.

American Math 10 - Advanced/ Algebra II (Elective)

Algebraic Methods: Fractional exponents, operations with algebraic fractions, fractional and radical equations

Functions: Composing two functions, inverse of a function and its graph

Circles: Inscribed angles, measuring angles, finding chord, tangent, and secant-segment lengths

Transformations: Line symmetry, rotation, translation, dilation, composing transformations, reflecting and rotating using coordinates

Trigonometry: Functions, identities, equations, formulas, solving triangles

This elective course is taught in English.

Math 10 (International Track)

The objectives of this course are to develop curiosity about and enjoyment of mathematics as well as an understanding of the concepts, principles, and nature of the subject; to communicate mathematics clearly; and to cultivate logical and creative thinking in problem-solving in order to instill confidence in applying mathematics to a variety of real-life situations. Units of study include solving equations and inequalities; trigonometry; managing money; curved graphs; symmetry and loci; ratios, rates, and proportions; transformations and matrices; statistics; probability; and a project applying math to financial markets.

Physical Education

Students are introduced to the French physical education program, which requires proficiency in at least two team sports and one individual sport. Students are made aware of the physical requirements for good evaluations and given the instruction necessary to improve skills and techniques to achieve maximum results. Sports offered may include, but are not limited to, endurance running, volleyball, basketball, badminton, dance, relay running, soccer, orienteering, rock-climbing, and lifeguard-training. This course is taught in English.

Physics and Chemistry 10 (French-American Track)

The physics and chemistry course in 10th grade is organized around three themes: Health; Practicing Sports; and The Universe. Health covers the fundamentals of medical diagnosis and medication. Observation of results builds notions of concentration and chemical types, as well as reflections on the constitution and structure of matter. The unit on Practicing Sports deals with the study of movement, the concept of pressure, materials, and molecules involved in the practice of a sport, and the needs and responses of the body. The Universe unit spans large cosmic structures to the structure of matter, including stars, planets, and the solar system. The approach provides a coherent general overview of the subject matter. This course is taught in French.

Public Speaking (Elective)

This bilingual course prepares students to speak publicly before a variety of audiences and on a broad range of topics, as they will need to do during their adult and professional lives. Topics

include Why do we laugh? Should people have the right to smoke in public? Someone I admire, My future career, and free subjects. Students give speeches once a fortnight, on average, alternating between English and French.

Spanish I (Elective)

Students in grade 10 can choose to start Spanish as a third language (LV3). The course meets three days a week and follows the beginner's program of Spanish in accordance with the French Ministry of National Education. Through thematic topics of daily life (presenting oneself, describing one's family, one's friends, one's activities), the students follow a progression that combines pragmatic goals (asking questions, getting and giving directions), linguistic objectives (the present tense, the subjunctive mode, the past and future tenses, the use of pronouns and prepositions), and cultural awareness (discovering the Hispanic world, its music, art, holidays, traditions, and recipes). In order to be able to communicate fully, students learn to understand, speak, read, converse in, and write in the target language.

Spanish IV

Students are given ample opportunities to review and solidify grammar and vocabulary basics. They are also asked to deepen their mastery of the language through the study of various authentic documents—visual texts (literature, cartoons, advertisements) and audio-visual materials—that expose students to the different accents of the Spanish-speaking world as well as the diverse cultures within it. The overarching theme of the course is The Art of Living Together. Students are challenged to enrich their expression as they continue to communicate through comprehension, speaking, reading, and writing, while grappling with more mature, complex world topics. This course meets three days a week.

Sciences in the International Track

All students in the International track take chemistry, biology, and physics over the course of two years. In ninth grade, students took two trimesters of chemistry and one trimester of biology. In 10th grade, they take a second trimester of biology and two trimesters of physics.

Biology 9 and 10

The course focuses on developing a broad general understanding of biology by expanding for students how science works and is applied to acquire knowledge about the natural world.

Course Objectives:

• Acquire and demonstrate knowledge and understanding of scientific facts, concepts, and techniques

• Develop scientific investigation skills through inquiry-based laboratory work

• Analyze and evaluate data, techniques, and scientific explanations

• Communicate effectively through the language of science

• Develop awareness for accuracy, precision, objectivity, and integrity

• Recognize the utility, ethical considerations, and limitations of science

Course content includes laboratory skills, the organization of life, biochemistry, cell structure and function, photosynthesis, reproduction and development, genetics, evolution, homeostasis in organisms, ecology, biodiversity, and the positive and negative human impact on the environment.

Physics 10

Course Objectives:

- Acquire a foundation of knowledge and skills to prepare for success in IB Physics

- Develop scientific investigation skills through hands-on practical work
- Learn to analyze data and present it effectively
- Recognize the usefulness and limitations of science in society and everyday life

Course content includes measurement, sources of uncertainty, data collection, forces and motion, Newton's laws, energy, power, "work," thermal physics, waves, electricity, and electric circuitry.

These courses prepare students for the IB biology and physics courses.

United States History II (French-American Track)

This course covers United States history from the Great Depression through the beginning of the 21st century. The first third of the course is an in-depth study of the emergence of the United States as a global hegemon. The middle third explores the economic and social issues and challenges that the United States faced during the 1960s and 1970s. The final third deals with the rise of the conservative movement, the end of the Cold War, and the United States' place in the New World Order. Throughout the course, students continue to develop their familiarity with historical data and geopolitical terminology. They also hone their research and analytical skills through a research project. Texts include *American Odyssey: The United States in the 20th Century*; *When the Emperor Was Divine* by Julie Otsuka; *Nickel and Dimed, On (Not) Getting by in America* by Barbara Ehrenreich; documentaries; and primary sources. This course is taught in English at a native level.

United States History 10 (International Track)

This course covers United States history from its founding through the beginning of the 21st century. Students will take a close look at the Constitution and how its changing interpretation has affected the country throughout its history, including the power of the federal government vs. states' rights, the role of the government in the economic and social lives of its citizens, and the changing role of the United States in the world. Throughout the course, students will learn to think historically by making comparisons, either between perspectives represented in texts and sources; among individuals, events, and developments; or across periods of time and locations. While the course is intended to provide students with a thorough understanding of American history, it also situates key events, ideas, and figures within a more international context.

Grades 11 and 12 Curricula

In the 11th and 12th grades, students choose to prepare for either the International Baccalaureate Diploma program or the French Baccalaureate exam.

The French Baccalaureate is offered with a choice between two main tracks: the social sciences and economics-based track (ES) and the science-based track (S). Students in 12ES are asked to choose a concentration in economics or mathematics. Students in 12S are asked to choose a concentration in one of the following subjects—biology/natural sciences, mathematics, or physics/chemistry. Students whose English is at a native level have the possibility of taking the French Baccalaureate exam with the International Option (OIB). In addition to taking exams in French, these students also take parts of the Baccalaureate exam in English, which requires taking an English literature honors course and a history/ geography honors course taught in English.

Students in the International Baccalaureate Diploma Program must take the three core courses—Theory of Knowledge, Creativity/ Activity/Service, and Extended Essay—as well as six classes balanced among the main areas of the curriculum (groups), offered at the Higher or Standard levels.

French Baccalaureate Track

English 11 - Honors OIB

This advanced, college-level reading and writing course is the first year of the two-year English OIB program. It devotes a significant portion of study to an in-depth analysis of the various literary genres—fiction, poetry, drama, and nonfiction—as recommended by the International Option of the French Baccalaureate. In addition to studying a wide range of genres, students also will work on developing their writing skills through a variety of writing activities, including formal analytical essays, creative-writing pieces, and short responses.

Course texts feature works from the 19th to the 21st centuries by authors from around the globe and may include such works as *Frankenstein* by Mary Shelley*, Heart of Darkness* by Joseph Conrad, *A Streetcar Named Desire* by Tennessee Williams, *The Scarlet Letter* by Nathaniel Hawthorne, *Interpreter of Maladies* by Jhumpa Lahiri*, A Room of One's Own* by Virginia Woolf, *Stranger in the Village* by James Baldwin, and a selection of poems by Rita Dove. This course is taught at a native level.

English 11

The non-OIB English course, in addition to beginning the preparation for the English LV1 Baccalaureate exam, is a college-preparatory class for near-native English-speaking students who are interested in attending American or Canadian universities. It involves intensive work in improving aural/oral skills as well as reading and writing skills. Students strengthen these skills through the close reading and literary study of selected British and American literature, including novels, plays, short stories, and poetry. In addition to literary study, students practice their grammar and build their vocabulary through readings from contemporary media, traditional exercises, and an ACT preparation text. The literary texts and authors covered include *Fences* by August Wilson, *Brave New World* by Aldous Huxley, *Never Let Me Go* by Kazuo Ishiguro, the poetry of T. S. Eliot, and the short stories of Hemingway, Lovecraft, and Le Guin. This course is taught at a native level.

English 11 LV1 for Non-Native Speakers

This course involves intensive work in improving aural/oral skills as well as reading and writing skills, as students begin preparation for the English LV1 Baccalaureate examination. They review English grammar in association with the Test of English as a Foreign Language (TOEFL), work on vocabulary development, and read a selection of British and American novels, plays, poetry, and nonfiction (essays, journalistic works, etc.). Texts and authors may include, but are not limited to, *Elements of Writing*, *Wordly Wise*, *Never Let Me Go* by Kazuo Ishiguro, *Anthem* by Ayn Rand, *Fahrenheit 451* by Ray Bradbury, *The Great Gatsby* by F. Scott Fitzgerald, and *The Maltese Falcon* by Dashiell Hammett. This course is taught in English.

Economics and Sociology 11 - Honors

This course focuses on three central themes that connect all societies. Commercialism economics examines the functioning of the competitive market, the impact of externalities, the financing of economies, and money from various perspectives, such as that of the household or business, and also through diverse economic activities such as production, consumption, financing, and the management roles played by both markets and governments. Students also study contemporary society from a social perspective by analyzing cultural phenomena such as socialization, the nature and scope of different social groups, and the problem of deviance. The political science theme focuses on the formation and expression of public opinion and on the vote as an

individual or collective matter, distinguishing among the nation-state, the federal state, and government systems. Two close examinations complete the course, with reflections on the contribution of insurance and social protection to risk management in developed societies and on the organization and governance of companies. This course is taught in French.

European History and World Geography III - Honors

The history portion of the course begins with a study of economic growth, globalization, and social changes since the mid-19th century. Students next examine the 20th century's main conflicts (the two World Wars and the Cold War) by positioning them in their respective conflicts, then study colonization and decolonization, and, finally, examine the relationship of the French people to the concept of Republic (from the Third Republic to the Fifth Republic). In the geography portion of the course, the year begins with a study of local territories. Students gain an in-depth knowledge of the French and European territories within the context of globalization. They also work on questions related to sustainable development. In both history and geography, students learn to analyze and interpret documents—such as press articles, cartoons, photography, maps, graphs, etc.—and to draft well-structured, well-written essays. This course is taught in French.

Modern World History and Geography I - Honors OIB

This is the first course in a demanding two-year history/geography program that covers the global events and themes that have shaped the modern world.

Topics covered in the history portion of the course include an introduction to economic and political theory, industrialization and the Dual Revolution, totalitarianism, and war in the 20th century (including World War I).

In both history and geography, students develop their ability to analyze and interpret documents (press articles, cartoons, photographs, memoirs, maps, charts, etc.) and to write college-level essays. They also hone their research and writing skills through a research paper.

History, Geography, Geopolitics, and Political Science Specialty Course

This course uses a multidisciplinary approach to analyze and develop an understanding of the world's complexity by adopting convergent historical and geographical approaches to the situations, events, and contexts. The curriculum also offers a political approach to global questions, with a historical dimension at the national and international levels. As such, it makes connections with another specialty course: economic and social sciences.

The historical perspective highlights change and continuity, as well as similarities and changes over time, and gives context to the role of each stakeholder. The geographical analysis allows students to understand the connections and influences between place and space and the diverse agents that act upon them. Political science brings a comparative approach to the study of international relations and political concepts, regimes, and stakeholders (including international organizations). Political geography puts into perspective the conflicts and consequences among various territories through the scope of their rich and diverse histories.

The five main themes of the course are Understanding Political Regimes: Democracy; Analyzing the Active Relationships Among International Powers; Studying the Political Divisions of the World: Frontiers; A Critical Analysis of the Varying Sources and Types of Communication; and Analysis of the Relationship Between States and Religions.

French 11 Literature and Composition - Honors

This is the final French studies course for high school students and culminates with them taking the Baccalaureate exam (EAF). The curriculum builds on themes first presented in the 10th grade, including critical thinking, essay writing, creative writing, and literary commentaries. It is organized around the following topics: theater; poetry; applying the art of rhetoric to an investigation of human nature; and narration. This course is taught in French at a native level.

Mathematics Specialty Course

Topics covered in this course include:

Sequences: Explicit formula, recursive formula, direction of variation, arithmetic, geometric sequences and series, limit at infinity

Algebra and Trigonometry: Polynomials, quadratic equations and inequalities, unit circle, radian, trigonometric equations and formulas, law of sines, law of cosines

Calculus and Analysis: Exponential function, quadratic and cubic functions, global and local study of numerical functions, limit, graph, tangent to the curve, derivative function (sum, product and quotient of functions)

Vector Geometry: Basis, direction vector of a line, Cartesian equation of a line, oriented angle, determinant, scalar product

Probability: Probability distribution, variance, standard deviation, Bernoulli experiment, binomial coefficients, binomial distribution, range of fluctuation, conditional probability, Bayes' formula, independent events

Algorithms: Basic (variables, input, output, expressions, functions), conditional statements, iterative loops, pseudo-code, list, application in : programming with Python language, set mathematical notation and logical reasoning (connectors, negation, truth tables, propositions, logical implication), graphing calculator, geometry software. This course is taught in French.

Physics-Chemistry Specialty Course

This course is a continuation of the 10th-grade curriculum. It promotes experimental practice and modeling, offering a concrete and contextualized approach to concepts and phenomena, and is structured around four themes: Constitution and Transformations of Matter; Movement and Interactions; Energy: Conversions and Transfers; and Waves and Signals.

Topics in Science

This course looks to develop general skills through the practice of scientific reflection. The curriculum has several themes:

1) A Long History of Matter: The immense diversity of matter in the universe originated from a limited number of elementary particles. From the Big Bang to the development of life, these particles became organized into more and more complex systems.

2) The Sun, Our Source of Energy: The Earth receives most of its energy from the Sun, which determines the temperature on its surface, as well as climates and seasons. It allows photosynthesis to happen in plants, which, in turn, nourish other living beings.

3) Earth, a Unique Planet: Amid the multitude of planets, Earth is unique and has been a central object of study for much of history. At first, obvious evidence and non-scientific narratives led to naive representations. Then, scientific knowledge developed through a long process, often peppered with controversy, to lead to a greater understanding of the formation, age, and movement of our planet.

4) Sound and Music, Information Carriers: Human beings perceive the world through their senses, in particular through their auditory

sense. Auditory awareness started with surrounding sounds coming from nature. Then humans began to combine sounds harmoniously and learned to make music, an art that has a close relationship to mathematics. Today, computer science makes it possible to digitize sounds and music.

Biology/Earth Sciences Specialty Course

The objectives of this course are similar to the Biology/Earth Science course (see page 39). While the themes of study (Earth, Life, Evolution) are the same, this course offers a more in-depth exploration of them to further develop students' scientific knowledge and understanding of the world around them.

Spanish Core Course

In grade 11, students meet two hours a week. They practice the different language skills (oral and written expression and comprehension) in order to continue down the path of linguistic autonomy. The overarching theme of the course is Founding Gestures and Moving Worlds.

German Core Course

Analysis and discussions in this course are based on literary texts and original documents. The overarching theme is Founding Gestures and Moving Worlds. This course is taught in German.

Foreign Languages, Literatures, and Cultures: Spanish Specialty Course

Two themes are studied during the year through literary extracts, press articles, films, and pictorial and musical works: 1) Circulation of Men and Circulation of Ideas and 2) Diversity of the Hispanic World. Two literary works and a film are closely studied in their entirety. This class meets four hours per week.

Physical Education

To optimize Baccalaureate results, students practice, over the course of two years, four sports chosen from among those already learned in grade 10 or earlier. These include, but are not limited to, lifeguarding, running (3 x 500 meters), basketball, soccer, fitness, relay running, rock-climbing, volleyball, and badminton. This course is taught in French and English.

Art II (Elective)

Students complete a variety of assignments that require them to think more creatively and work more independently. In the process, they begin to develop their own visual voices. They take part in group critiques of their work and art history discussions, as well as enjoy other experiences that help them develop an awareness of their own artistic sensibilities and concerns. The ultimate goal of the course is to prepare them technically and conceptually for further study of art at FASNY and in college. Students focus on improving their ability to render complex natural forms from direct observation. In particular, they explore the beauty of the human form through lessons on proportion, shading, gesture, the skeletal system, and capturing the expressive qualities of the model. They continue the development of a portfolio of original artwork that can be used for further study in art, as preparation for the Baccalaureate exam, or as a supplement to their college applications. This course is taught in English.

Latin IV (Elective)

Students read original texts concerning the following four themes: Urban Life in Greco-Roman Civilization; Gods in Greco-Roman Civilization; Male, Female; and The Mediterranean Sea: Conflicts, Influences, Exchanges. Studies focus on Latin grammar,

stylistics, vocabulary, etymology, literature, and civilization. Connections with other texts from the French and English curricula are made as often as possible. The course also includes notions of ancient Greek culture and language. This elective is taught in French.

Music (Elective)

This course focuses on musical practices. Group listening is emphasized, allowing students to deepen their understanding of music through a study of space, time, color, and form. They are exposed to a variety of musical works of different eras, genres, and styles. Teaching is enriched by music practices (both vocal and instrumental). This course is taught in French.

Grade 12 ES TRACK

Economics and Sociology 12 - Honors

This course is a continuation of the one taught in 11 ES. It enables students to progressively integrate the concepts, methods, and key questions of three fields of social science: economics; sociology; and political science. The economics unit is organized around three themes: growth, fluctuations, and crises; globalization, international finance, and European integration; and the economics of sustainable development. The sociology unit focuses on class, structure, social mobility and integration, conflict, and social change. The political science unit deals with social justice and inequalities as well as work, employment, and unemployment. This course is taught in French.

Advanced Topics in Economics and Sociology 12 - Honors

The program is built around three main themes:

Economy and Demography - How demographic dynamics affect economic growth and the impact of economic and demographic variables on the financing of social protection

Business Strategies and Competition Policy in a Globalized Economy - Under what circumstances can firms exercise market power? Plus, the role of competition policy

Financial Instability and Regulation - How financial globalization works, the mechanisms that lead to financial crises, and regulation of the financial system

English 12 - Honors OIB

This advanced, college-level reading and writing course is the second year of the two-year English OIB program. Building on the work done by students in grade 11, this course not only devotes a significant portion of study to an in-depth analysis of the various literary genres—fiction, poetry, drama, and nonfiction—it also prepares students for the Baccalaureate exam through periodic mock written and oral tests taken in exam conditions. In addition to essays written in exam conditions, students develop their writing skills through a variety of writing activities, including journals, short responses, and creative-writing pieces. A significant portion of the year is dedicated to extensive study of the works in depth—those texts that will be the focus of the Baccalaureate oral exam—with particular focus on students developing strategies and techniques for effectively close-reading the language, literary features, and meaning of significant passages from those works.

Texts and authors include, but are not limited to, *Crime and Punishment* by Fyodor Dostoevsky, *The Tempest* by William Shakespeare, *Beloved* by Toni Morrison, *Intimate Apparel* by Lynn Nottage, and a selection of poems by Robert Frost. This course is taught at a native level.

English 12

The non-OIB English course, in addition to preparing students for the English LV1

Baccalaureate exam, is a college-preparatory class for near-native or native English-speaking students who are interested in attending American or Canadian universities. Students work on developing their writing skills, as well as their reading and aural/oral skills, through a variety of activities, both written and oral, as they engage in the close reading and analysis of literary works, including novels, plays, short stories, and poetry. In addition to literary study, students practice their grammar and build their vocabulary through readings from contemporary media, traditional exercises, as well as the Test of English as a Foreign Language (TOEFL), International English Language Testing System (IELTS), and SAT preparation. Texts and authors may include, but are not limited to, *Vinegar Girl* by Anne Tyler, *The Underground Railroad* by Colson Whitehead, *The Road* by Cormac McCarthy, *Pygmalion* by George Bernard Shaw, as well as contemporary essays. This course is taught at a native level.

English 12 LV1 for Non-Native Speakers

This course involves intensive work in improving aural/oral skills, as well as reading and writing skills, in preparation for the English LV1 Baccalaureate examination, International English Language Testing System (IELTS), and the Test of English as a Foreign Language (TOEFL). Students review English grammar, work on vocabulary development, practice IELTS and TOEFL exercises, and read a selection of British and American novels, plays, and poetry. A variety of literary genres, including fiction (long, short, drama, poetry) and nonfiction (essays, journalistic works), is included. Texts and authors include *Vinegar Girl* by Anne Tyler, *Pygmalion* by George Bernard Shaw, *V for Vendetta* by Lloyd and Moore, *Warriors Don't Cry* by Melba Pattillo Beals, contemporary essays, and poetry. This course is taught in English.

Philosophy - Honors

Students are invited to think critically and analytically about human life thorough concepts such as consciousness, freedom, justice, society, happiness, art, religion, reason, etc. They develop the ability to critique, reflect in a highly logical and thorough manner, and take an inquiry stance with respect to major philosophical areas, such as political philosophy, epistemology, ethics, metaphysics, and aesthetics. In order for students to form their own well-founded opinions, they are asked to draw from the works of great Western philosophers and schools of thought developed from antiquity to the present day. Students are trained to write commentaries and dissertations in preparation for the Baccalaureate exam. Specifically, they learn to discern the essential issues contained within a philosophical question, clearly explore different points of view, extend beyond facts to the conceptualization of abstract ideas, and logically organize a personal reflection from introduction to conclusion. The course is taught via lectures, presentations, discussions, analyses of texts from the great philosophical works, and the reading of important authors recommended by the French Ministry of National Education. This course is taught in French.

European History and World Geography IV - Honors

The history portion of this course allows students to focus on understanding the 20th century. They study the relationship between societies and their past, ideologies, and opinions and beliefs of the last century as well as the birth of two great powers: the United States and China. Students also study the different types of government in the world since 1945, examining France as a nation-state, European unity since the 1948 Hague Conference, and world economic governance since Bretton Woods.

The geography portion of the course focuses on the world, globalization, and the main continents (the Americas, Europe, Asia, and Africa) and their dynamics. This course is taught in French.

Modern World History and Geography II - Honors OIB

This is the second course in a demanding two-year history/geography program that covers the global events and themes that have shaped the modern world. The culminating examination is the History/Geography portion of the OIB (International Option) of the French Baccalaureate exam.

The history portion of the course takes a thematic approach to understanding the modern world. Students study the rise to power of the United States and China in the 20th century, conflict in the Middle East, the relationship between societies and their past, and ideologies, opinions, and beliefs from the end of the 19th century to today. They also study three scales of governance since 1945, examining France as a nation-state, European unity since the 1948 Hague Conference, and world economic and political governance since the Bretton Woods conference. In addition, students review the social and political history of the United States since 1945.

In geography, students study globalization, its actors and the flows they generate, and the corresponding shifts in economic power. The curriculum includes in-depth studies of several regions, including the Americas (e.g., regional cooperation and tensions, the rise of Brazil), Africa, and South and East Asia. Students develop expertise in the analysis of geo-political, geo-economic, geo-cultural, and geo-environmental maps.

Math: Calculus, Statistics, and Probability II

The topics covered in this curriculum are:

Calculus - Exponential, logarithmic functions, continuity, Intermediate Value Theorem, differentiation, convexity, inflexion point, Riemann integral, areas calculation

Sequences - Geometric sequences and series, arithmetic-geometric sequences, limits

Probability and Statistics - Conditional probability, Bayes' formula, independent events, density function of a continuous random variable, uniform distribution, standard normal distribution, Moivre-Laplace Theorem, normal distribution N, estimation theory (prediction interval, confidence interval)

Algorithms - Basics (variables, input, output, expressions, functions), conditional statements, iterative loops, recursivity. Application: programming with different language

Set mathematical notation, logical reasoning (connectors, negation, truth tables, propositions, logical implication), graphing calculator. This course is taught in French.

Math: Calculus, Statistics and Probability, and Finite Math II

Matrices - Operations, inverse, resolution of linear systems, search for polynomial curves passing through a set of given points

Theory of graphs - Vertices, edges, degree of a vertex, order, chain, length, complete graph, connected, Eulerian chain, associated matrix, search for the shortest path on a weighted graph (Dijkstra algorithm)

Probabilistic graphs (Markov chains) with two or three vertices - Transition matrix, stable state

Problem-solving - Flow management, modeling by Leontief matrices, coding, minimization, evolutionary phenomena. This course is taught in French.

German VI

Analysis and discussions in this course are based on literary texts and original documents. Students are expected to present written and oral work relating to such texts. This course is taught in German.

Spanish III (Elective)

Students in grade 12 who started Spanish as a third language (LV3) in grade 10 continue down this path in accordance with the French program. They are given ample opportunities to review and solidify grammar and vocabulary basics. In addition, they are asked to deepen their mastery of the language through the study of various authentic documents: visual texts (literature, cartoons, advertisements) and audio-visual materials that expose them to the different accents of the Spanish-speaking world and the diverse cultures within it. Students are challenged to enrich their expression as they continue to communicate through comprehension, speaking, reading, and writing, while grappling with more mature, complex topics. The course material falls under the four major themes of the Baccalaureate exam: heroes and myths; spaces and exchanges; places and forms of power; and the idea of progress. Students of LV3 may choose to prepare for the oral component of the Baccalaureate exam, although this is optional.

Spanish VI

In grade 12, students are fully engaged in preparing for the Baccalaureate exam. This cumulative exam covers four broad themes: heroes and myths; spaces and exchanges; places and forms of power; and the idea of progress. Students tackle these multifaceted topics through a variety of assessments that solicit their ability to listen, understand, speak, read, and write. ES and S students take the same Baccalaureate exam in Spanish.

Physical Education

In accordance with the physical education curriculum of the Baccalaureate, students are graded in three sports within different athletic domains. These include, but are not limited to, lifeguarding, running (3 x 500 meters), basketball, soccer, fitness, dance, relay running, rock-climbing, volleyball, and badminton. This course is taught in French and English.

Art III (Elective)

This course prepares students for the Baccalaureate exam in visual art. Three specific works of art are studied in depth, and students are encouraged to forge connections among these three works and their own creative explorations. Throughout the year, they build a portfolio of works, including sketches, drawings, photographs, and finished projects in a variety of media. The resulting portfolio documents the student's personal artistic process, growth, and understanding in the broader context of art history and culture. This course is taught in English; the oral exam is conducted in French.

Latin V (Elective)

This course is the final one in the sequence of the Latin curriculum in the high school and culminates in an oral exam of the French Baccalaureate. Students engage in oral and written activities based on themes such as philosophical thinking, scientific reasoning, and political thought and the reading of the program-mandated text (the text is changed every two years). Connections with other texts from the French and English curricula are made as often as possible. This course also includes notions of ancient Greek culture and language. The Latin section of the French Baccalaureate has a coefficient of 3. This elective course is taught in French.

Music (Elective)

This course focuses on musical practices. Group listening is emphasized, which allows students to deepen their understanding of music through a study of space, time, color, and form. Students are exposed to a variety of musical works of different eras, genres, and styles. Classroom teaching is enriched by music practices (both vocal and instrumental). This course is taught in French.

Grade 12 S Track

English 12 - Honors OIB

This advanced, college-level reading and writing course is the second year of the two-year English OIB program. Building on the work done by students in grade 11, the course not only devotes a significant portion of study to an in-depth analysis of the various literary genres—fiction, poetry, drama, and nonfiction—it also prepares students for the Baccalaureate exam through periodic mock written and oral tests taken in exam conditions. In addition to essays written in exam conditions, students develop their writing skills through a variety of writing activities, including journals, short responses, and creative-writing pieces. A significant portion of the year is dedicated to study of the works in depth—those texts that will be the focus of the Baccalaureate oral exam—with particular focus on students developing strategies and techniques for effectively close-reading the language, literary features, and meaning of significant passages from those works.

Texts and authors include, but are not limited to, *Crime and Punishment* by Fyodor Dostoevsky, *The Tempest* by William Shakespeare, *Beloved* by Toni Morrison, *Intimate Apparel* by Lynn Nottage, and a selection of poems by Robert Frost. This course is taught at a native level.

English 12

The non-OIB English course, in addition to preparing students for the English LV1 Baccalaureate exam, is a college-preparatory class for near-native or native English-speaking students who are interested in attending American or Canadian universities. Students work on developing their writing skills as well as their reading and aural/oral skills through a variety of activities, both written and oral, as they engage in the close reading and analysis of literary works, including novels, plays, short stories, and poetry. In addition to literary study, students practice their grammar and build their vocabulary through readings drawn from contemporary media, traditional exercises, and the Test of English as a Foreign Language (TOEFL), International English Language Testing System (IELTS), and SAT preparation. Texts and authors may include, but are not limited to, *Vinegar Girl* by Anne Tyler, *The Underground Railroad* by Colson Whitehead, *The Road* by Cormac McCarthy, *Pygmalion* by George Bernard Shaw, and contemporary essays. This course is taught in English at a native level.

English 12 LV1 for Non-Native Speakers

This course involves intensive work to improve aural/oral skills, as well as reading and writing skills, in preparation for the English LV1 Baccalaureate examination, International English Language Testing System (IELTS), and the Test of English as a Foreign Language (TOEFL). Students review English grammar, work on vocabulary development, practice TOEFL and IELTS exercises, and read a selection of British and American novels, plays, and poetry. A variety of literary genres, including fiction (long, short, drama, poetry) and nonfiction (essays, journalistic works), is included. Texts and authors include *Vinegar Girl* by Anne Tyler, *Pygmalion* by George Bernard Shaw, *V for Vendetta* by Lloyd and Moore, *Warriors Don't Cry* by Melba Pattillo Beals, contemporary

essays, and poetry. This course is taught in English.

Philosophy

Students are invited to think critically and analytically about human life thorough concepts such as consciousness, freedom, justice, society, happiness, art, religion, reason, etc. They develop the ability to critique, reflect in a highly logical and thorough manner, and take an inquiry stance with respect to major philosophical areas such as political philosophy, epistemology, ethics, metaphysics, and aesthetics. In order for students to form their own well-founded opinions, they are asked to draw from the works of great Western philosophers and schools of thought developed from antiquity to the present day. Students are trained to write commentaries and dissertations in preparation for the Baccalaureate exam. Specifically, they learn to discern the essential issues contained within a philosophical question, clearly explore different points of view, extend beyond facts to the conceptualization of abstract ideas, and logically organize a personal reflection from introduction to conclusion. The course is taught via lectures, presentations, discussions, analyses of texts from the great philosophical works, and the reading of important authors recommended by the French Ministry of National Education. This course is taught in French.

European History and World Geography IV

In history, students are invited to deeply reflect upon the challenges facing today's world. They consider the relationship between societies and their past as well as the concept of memory and study the super-powers of and conflicts throughout the world since 1945. Students also study the scale of government in the world since 1945. In geography, the course opens with a reading grid for a complex world, then tackles the forces at play in globalization, and ends with an analysis of large, continent-scale geographical dynamics. This course is taught in French.

Modern World History and Geography II - Honors OIB

This is the second course in a demanding two-year history/geography program that covers the global events and themes that have shaped the modern world. The culminating examination is the History/Geography portion of the OIB (International Option) of the French Baccalaureate exam.

The history portion of this course takes a thematic approach to understanding the modern world. Students study the rise to power of the United States and China in the 20th century and conflict in the Middle East, as well as the relationship between societies and their past and ideologies, opinions, and beliefs from the end of the 19th century to today. They also study three scales of governance since 1945, examining France as a nation-state, European unity since the 1948 Hague Conference, and world economic and political governance since the Bretton Woods conference. In addition, students review the social and political history of the United States since 1945.

In geography, students study globalization, its actors and the flows they generate, and the corresponding shifts in economic power. The curriculum includes in-depth studies of several regions, including the Americas (e.g., regional cooperation and tensions, the rise of Brazil), Africa, and South and East Asia. Students develop expertise in the analysis of geo-political, geo-economic, geo-cultural, and geo-environmental maps.

Math: Advanced Calculus, Vector Geometry, and Probability II - Honors

Calculus: Exponential, logarithmic, power and trigonometric functions, limits and continuity,

Intermediate Value Theorem, differentiation, antiderivative, Riemann integral, areas calculation, asymptote of a curve

Sequences: Proof by mathematical induction, limits, geometric sequences and series, bounded above or below sequences

Algebra and Geometry: Complex numbers (equations, geometric representation, trigonometric, exponential form)

Spatial Vector Geometry: Lines and planes, vectors, Scalar Product, intersection of solids by a plane

Probability and Statistics: Conditional probability, Law of Total Probability (Bayes' formula), independent events, density function of a continuous random variable, uniform distribution, exponential distribution, standard normal distribution, Moivre-Laplace Theorem, normal distribution N, Estimation Theory (prediction interval, confidence interval)

Algorithms: Basics (variables, input, output, expressions, functions), conditional statements, iterative loops, recursivity, application in different programming language

Application: Programming with the TI 84 or using a language like Python or Matlab, set mathematical notation, logical reasoning (connectors, negation, truth tables, propositions, logical implication), graphing calculator. This course is taught in French.

Advanced Topics in Math 12: Linear Algebra and Number Theory - Honors

Number Theory: Divisibility, Euclidean division, congruence in Z, prime numbers, relatively prime numbers, Bézout's identity, Gauss' theorem, Fermat's little theorem

Problem-Solving: Coding, cryptography, encryptions

Matrix and Sequences: Operations, inverse, linear systems in more than two variables, sequences of matrix

Problem-Solving: Random walk, Markov chains, Ehrenfest Diffusion Model, Lotka-Volterra predator-prey model

Biology/Natural Sciences 12 - Honors

This course builds on knowledge learned in prior science courses and combines lectures and lab exercises. The content focuses on the following themes:

Earth in the Universe, Life, and the Evolution of Living Things - Genetic variation related to sexual reproduction and a few aspects of the mechanisms of evolution (study of angiosperm)

A few aspects of continental geologic transformations are discussed to introduce the theme of Contemporary Global Issues, in which two questions are addressed: man's domestication of the plant and the thermal properties of the Earth as possible energy sources and as elements in the understanding of how the Earth operates.

Human Body and Health is structured around two questions: a few aspects of immune relations complete middle school knowledge and link this theme to an evolving vision.

Study of the somatic nervous system in association with the spinal reflex will reinforce the notion of "reflex," while giving a solid background in neurons and synapses.

Advanced Topics in Biology and Natural Sciences 12 - Honors (for S Students Specializing in Biology)

In this section of biology and geology, three themes are covered.

1) Earth in the Universe, Life, and the Evolution of Life: Energy and the living cell (limited to

eukaryotic cells), photosynthesis, respiration, fermentation, ATP

2) Contemporary Global Issues: Atmosphere, hydrosphere, climates (past to future), understanding the origin of climate, comparison of today's atmosphere and the initial one are tools for determining ancient paleoclimates, understanding the greenhouse effect

3) Human Body and Health (Glycaemia and Diabetes): Glycaemia is a parameter of the internal environment; maintaining it within a narrow range is indicative of good health (enzymatic action, regulation of glycaemia, origin of diabetes).

This course is taught in French.

Physics and Chemistry 12 - Honors

In this course, students explore three fields.

1) Waves and Matter - Waves and particles convey information. How are they detected? What are the characteristics and properties of waves? How do we create and use spectra to identify atoms and molecules?

2) Laws and Models - How are periodic phenomena used to measure time? In what way is the concept of time essential to relativity? Which parameters influence chemical evolution? How can the structure of a molecule help in identifying its properties? How do organic reactions and proton exchanges contribute to the transformation of matter? How do energy transfers of different scales occur? How is quantum reality manifested, especially with regard to light?

3) 21st-Century Challenges - In what ways can science tackle the challenges met by humankind in its endeavor for sustainable development? Saving resources and respecting the environment, synthesizing molecules and manufacturing new materials, transferring and storing information, creating and innovating.

The course is taught in French.

Advanced Topics in Physics and Chemistry 12 - Honors (for S Students Specializing in Physics/Chemistry)

This course prepares students for college work in physics and chemistry. Students concentrate on three areas essential to any scientist: experimenting; analysis and synthesis of scientific documents; and the resolution of scientific problems. In this perspective, the curriculum uses three study areas.

1) Water: Water and its environment, water and resources (producing drinkable water, mineral and organic resources in the oceans), water and energy (fuel cells and production of dihydrogen)

2) Sound and Music: Musical instruments, transmitting and receiving sounds, sound and architecture

3) Materials: The cycle of life (development, aging, corrosion, protection, and recycling), structure and properties (conductors, superconductors, liquid crystals, semi-conductor devices, photovoltaics), new materials (nanotubes, nanoparticles, composite materials)

This course is taught in French.

German VI

Analysis and discussions in this course are based on literary texts and original documents. Students are expected to present written and oral work relating to such texts. This course is taught in German.

Spanish VI

In grade 12, students are fully engaged in preparing for the Baccalaureate exam. This cumulative exam covers four broad themes: heroes and myths; spaces and exchanges; places and forms of power; and the idea of progress. Students tackle these multifaceted topics through a variety of assessments that solicit

their ability to listen, understand, speak, read, and write. ES and S students take the same Baccalaureate exam in Spanish.

Spanish SAT II Preparation (Optional)

Students in grade 12 have the option to take the prep course for the Spanish SAT II. The course meets once a week in the first trimester only. Students continue to familiarize themselves with the format of the standardized exam (with oral comprehension) using practice tests.

Physical Education

In accordance with the curriculum of the Baccalaureate, students are graded in three sports within different athletic domains. These include, but are not limited to, lifeguarding, running (3 x 500 meters), basketball, soccer, fitness, dance, relay running, rock-climbing, volleyball, and badminton. This course is taught in French and English.

Art III (Elective)

This course prepares students for the Baccalaureate exam in visual art. Three specific works of art are studied in depth, and students are encouraged to forge connections among the three works and their own creative explorations. Throughout the year, students build a portfolio of work, including sketches, drawings, photographs, and finished projects in a variety of media. The resulting portfolio documents the student's personal artistic process, growth, and understanding in the broader context of art history and culture. This course is taught in English; the oral exam is conducted in French.

Latin V (Elective)

This course is the final one in the sequence of the Latin curriculum in the high school and culminates in an oral exam of the French Baccalaureate. Students engage in oral and written activities based on themes such as philosophical thinking, scientific reasoning, political thought, and the reading of the program-mandated text (the text is changed every two years). Connections with other texts from the French and English curricula are made as often as possible. This course also includes notions of ancient Greek culture and language. The Latin section of the French Baccalaureate has a coefficient of 3. This elective course is taught in French.

Music (Elective)

This course focuses on musical practices. Group listening is emphasized, which allows students to deepen their understanding of music through a study of space, time, color, and form. Students are exposed to a variety of musical works of different eras, genres, and styles. Classroom teaching is enriched by music practices (both vocal and instrumental). This course is taught in French.

International Baccalaureate Diploma Track (11IB and 12IB)

Group 1: English A Literature - Higher Level (Grades 11 and 12)

The course is built on the assumption that literature is concerned with our conceptions, interpretations, and experiences of the world. The study of literature can, therefore, be seen as an exploration of the way it represents the complex pursuits, anxieties, joys, and fears to which human beings are exposed in the daily business of living. It enables an exploration of one of the more enduring fields of human creativity and provides opportunities for encouraging independent, original, critical, and clear thinking. It also promotes respect for the imagination and a perceptive approach to the understanding and interpretation of literary works.

Through the study of a wide range of literature, the Language A and Literature course encourages students to appreciate the artistry of literature and to develop an ability to reflect critically on their reading. Works are studied in their literary and cultural contexts through close study of individual texts and passages and by considering a range of critical approaches. In view of the international nature of the IB and its commitment to intercultural understanding, the Language A and Literature course does not limit the study of works to the products of one culture or the cultures covered by any one language. The study of works in translation is especially important in introducing students, through literature, to other cultural perspectives. The response to the study of literature is through oral and written communication, thus enabling students to develop and refine their command of language.

Literature is a flexible course that allows teachers to choose works from prescribed lists and from their own experience. In the first year of this two-year program, students will explore dystopian fiction such as *Brave New World* by Aldous Huxley, *We* by Yevgeny Zamyatin, and *The Handmaid's Tale* by Margaret Atwood. Students will also explore the themes of criminality and social alienation in three different works in translation: *A Doll's House* by Henrik Ibsen; *Crime and Punishment* by Fyodor Dostoevsky; and *Chronicle of a Death Foretold* by Gabriel García Márquez. In grade 12, students will build on the work accomplished in grade 11. The first major task is to prepare for the Individual Oral Commentary, an oral exam requiring close analysis of a poem (in this case, one by Keats) and strong working knowledge of the program as a whole. The works of literature for the fall are as follows: *Othello* by William Shakespeare; *Heart of Darkness* by Joseph Conrad; and the poetry of John Keats. In the spring, students will prepare for the Paper One Exam (a two-hour analysis of a previously unseen prose or verse passage) and the Paper Two Exam (a two-hour, genre-specific exam requiring analysis across novels that will be read in the spring. The novels are as follows*: The Awakening* by Kate Chopin; *The Handmaid's Tale* by Margaret Atwood; *Beloved* by Toni Morrison; and *The Road* by Cormac McCarthy).

Group 1: French Language A and Literature - SL and HL (Grades 11 and 12)

This course is built on the assumption that literature is concerned with our conceptions, interpretations, and experiences of the world. The study of literature can, therefore, be seen as an exploration of the way it represents the complexity of the world, that of human beings and their relationship with the environment, in what they feel, think, and understand of the human experience. Literature provides an excellent medium to discuss and reflect on our lives' complexity through the works, which can be seen as statements or testimonials of the author's personal experience at a given time.

Through the study of a wide range of literature, the Language A and Literature course encourages students to appreciate the artistry of literature and to develop an ability to reflect critically on their reading. Works are studied in their literary and cultural contexts through close study of individual texts and passages and by considering a range of critical approaches.

In view of the international nature of the IB and its commitment to intercultural understanding, the Language A and Literature course embodies the idea that cultural identity alone does not define an author; rather, a writer is engaged with other cultures. This course is not limited to the study of works from one culture or written in one language; it is designed to include and welcome all literature, or what Goethe called *Weltliteratur* (world literature or universal literature).

In the first year of this two-year program, students will study "works in translation,"

namely, *Love Medicine* by Louise Erdrich*, La Cerisaie* by Anton Chekhov, and *Hedda Gabler* by Henrik Ibsen (HL). As well, they will study the options in *Le Ventre de l'Atlantique* by Fatou Diome*, Stupeur et tremblements* by Amélie Nothomb, and *L'Ingénu* by Voltaire.

In the second year, students will study the following works: *Antigone* by Jean Anouilh; *Kamouraska* by Anne Hébert; and the poetry of Victor Hugo. In the spring, they will prepare for the Paper One Exam (a two-hour analysis of a previously unseen prose or verse passage) and the Paper Two Exam (a two-hour, genre-specific exam requiring analysis across the following plays that will be read in the spring*: Le Mariage de Figaro* by Beaumarchais; *Le Jeu de l'amour et du hasard* by Marivaux; *Dom Juan* by Molière; and *Les Bonnes* by Jean Genet [HL]).

Group 2: German B - Standard Level (Grades 11 and 12)

The German B (SL) course provides students with the opportunity to acquire or develop an additional language and to promote an understanding of other cultures through the study of language. It is designed for students who possess a degree of knowledge and experience in German. This course is taught in German and meets for a total of 150 hours during the school year.

The aims of German B (SL) are to develop students' intercultural understanding; enable them to understand and use the language they have studied in a range of contexts and for a variety of purposes; and encourage, through the study of texts and through social interaction, an awareness and appreciation of the different perspectives of people of other cultures.

Assessments aim to test students' ability to understand and use the German language. Students will be assessed on their ability to communicate clearly and effectively in a range of situations, demonstrating linguistic competence and intercultural understanding; use language appropriate to a range of interpersonal and/or cultural contexts; and understand, analyze, and respond to a range of written and spoken texts.

Group 2: Spanish B - Standard Level (Grades 11 and 12)

The Spanish B (SL) course provides students with the opportunity to acquire or develop an additional language and to promote an understanding of other cultures through the study of language. It is designed for students who possess a degree of knowledge and experience in Spanish. This course is taught in Spanish and meets for a total of 150 hours during the school year.

The aims of Spanish B (SL) are to develop students' intercultural understanding; enable them to understand and use the language they have studied in a range of contexts and for a variety of purposes; and encourage, through the study of texts and through social interaction, an awareness and appreciation of the different perspectives of people of other cultures.

Assessments aim to test students' ability to understand and use the Spanish language. They will be assessed on their ability to communicate clearly and effectively in a range of situations, demonstrating linguistic competence and intercultural understanding; use language appropriate to a range of interpersonal and/or cultural contexts; and understand, analyze, and respond to a range of written and spoken texts.

Group 2: Spanish B - Higher Level (Grades 11 and 12)

The Spanish B (HL) course provides students with the opportunity to acquire or develop an additional language and to promote an understanding of other cultures through the study of language. It is designed for students who possess a degree of knowledge and

experience in Spanish. This course is taught in Spanish and meets for a total of 240 hours during the school year.

The aims of Spanish B (HL) are to develop students' intercultural understanding; enable them to understand and use the language they have studied in a range of contexts and for a variety of purposes; and encourage, through the study of texts and through social interaction, an awareness and appreciation of the different perspectives of people of other cultures.

Assessments aim to test students' ability to understand and use the Spanish language. They will be assessed on their ability to communicate clearly and effectively in a range of situations, demonstrating linguistic competence and intercultural understanding; use language appropriate to a range of interpersonal and/or cultural contexts; understand, analyze, and respond to a range of written and spoken texts; and understand and use works of literature written in the target language.

Group 3: Economics - SL and HL (Grades 11 and 12)

Economics SL is divided into four sections: microeconomics, which covers competitive markets, elasticity, government intervention, and market failure; macroeconomics, which looks at the level of overall economic activity, aggregate demand and aggregate supply, macroeconomic objectives, and fiscal, monetary, and supply-side policies; international economics, which involves learning about international trade, exchange rates, the balance of payments, and economic integration; and development economics, which looks at economic development and how it is measured, the role of domestic factors, international trade, foreign direct investment (FDI), foreign aid and multilateral development assistance, international debt, and the balance between markets and intervention.

Group 3: History - SL and HL (Grades 11 and 12)

The IB History course is a demanding, writing-intensive, two-year program that covers the global events and themes that have shaped the modern world. The course traces modern world history through the lens of society, politics, and economics, beginning with the Industrial Revolution, which, it can be argued, ushered in the modern global civilization of the past two centuries.

The changes wrought by the new industrial society began in England and spread to Western Europe, the United States, Asia, and, eventually, all over the globe. In the process, new social classes emerged that demanded reforms in the workplace and, more importantly, representation in government. Thus, the Industrial Revolution merged with the political ideals that flowed from the French and American Revolutions, creating what historians call the Dual Revolution.

Students study the Dual Revolution, with specific emphasis on the process of industrialization and the evolution and development of a variety of democratic states across the globe, focusing on such examples as Great Britain, the United States, Japan, and South Africa. In addition, they complete an in-depth study on Rights and Protest (the Civil Rights Movement in the U.S. and Apartheid in South Africa).

Students who choose Higher Level History will also engage in a more in-depth study of the Americas, studying the society, politics, and economics of the region through selected themes.

All students will develop their ability to analyze and interpret both primary and secondary sources. In the second year of the program, students will be required to complete a Historical Investigation, an IB-specific research paper in which they not only conduct research

but also critically evaluate their sources and reflect on the challenges facing historians.

Group 4: Biology - SL and HL (Grades 11 and 12)

The emphasis of this course is on a practical approach in which students design investigations, collect data, develop manipulative skills, analyze results, and evaluate and communicate their conclusions. Students develop the skills to work independently and collaboratively as they parallel the way in which scientists work in the broader community.

Topics covered in the first year include cell biology, molecular biology, metabolism (photosynthesis and respiration), evolution and biodiversity, ecology, and human physiology. Topics in the second year include plant biology, ecology, cell division, genetics, genetics and evolution, and molecular biology (nucleic acids).

The objectives of the course are to develop experimental and investigative skills, create awareness of the ethical implications of using science and technology, and develop an appreciation of the potentials and limitations of science and technology in understanding the workings of nature.

<u>Difference Between SL and HL</u>

SL and HL students undertake a common core syllabus, a common internal assessment (IA) scheme, and a common Group 4 project and have overlapping elements in the option studied.

Whereas the skills and activities are common to students at both the SL and HL, HL students are required to study some topics in greater depth, in the additional HL material and in the common option. The difference between SL and HL is mainly one of breadth and depth.

Group 4: Chemistry - SL (Grades 11 and 12)

This two-year course follows the specifications of the curriculum of the International Baccalaureate. Class will meet for a total of four periods a week: twice for a single period and once for a double period assigned mostly for lab work. Students will learn about measurement and data-processing throughout both years, especially during experimental work.

Topics covered in the first year (grade 11) are atomic structure, periodicity, chemical bonding, stoichiometric relationships, energetics, and kinetics.

Topics covered in the second year (grade 12) include equilibrium, acids and bases, redox processes, and organic chemistry. Students then work on one of the four following options: materials; biochemistry; energy; or medicinal chemistry.

In addition to the previously mentioned topics, towards the end of the first year students will work on a multidisciplinary project (Group 4 project) in collaboration with students from all the sciences.

Independently, at the beginning of the second year, every student will select an individual investigation on a theme of their choice to explore, analyze, and evaluate and then communicate their findings as part of their Internal Assessment (IA), which will be part of their IB final grade.

As it is with all IB Learners, students in this course will learn to be inquirers to ask themselves questions, and they will have to be good thinkers to be able to find an answer to those questions. They will have to be risk-takers and pursue their ideas, even if they are not that obvious, and be reflective, in order to constantly rethink their methods. Most of all, they will learn to be good communicators to collaborate with others and properly present their findings.

Group 4: Physics - SL and HL (Grades 11 and 12)

Topics covered in the first year include measurement and uncertainty, mechanics, waves, circular motion and gravitation, and electricity and magnetism. There will be a self-study unit on energy over the winter break. Topics for year two will include thermal physics; atomic, nuclear, and particle physics; energy production; and an IB "Option" Topic, which will be astrophysics.

The objectives of the course are to build and learn to apply a body of knowledge about physics and the methods and techniques of scientific thinking; develop experimental and investigative scientific skills; and encourage an appreciation for the history and limitations of humanity's remarkable progress in applying the scientific method to understand the workings of nature.

Difference Between SL and HL

The HL Physics course is designed to give students good preparation for the demands of university calculus-based courses in physics. Students with a strong interest in fields such as engineering, physics, mathematics, or architecture should take this course. A high IB score in HL Physics will enable a student to place out of the first semester of physics at many U.S. universities. Students who do not expect to pursue any further study of physics at the university level should consider SL.

SL and HL students study the same set of "core" topics, but HL students study some of the topics in greater depth. Both levels will undertake an Internal Assessment, in which the student independently investigates a topic of interest to him or her. The course is taught in English.

Group 5 (for the Class of 2020)

For the graduating class of 2020, the IB program offers three strands of mathematics—Mathematical Studies Standard Level, Mathematics Standard Level, and Mathematics Higher Level—based on the interest, needs, and capabilities of students.

Group 5: Mathematical Studies - SL (Grade 12)

The objective of this course is to build confidence and encourage an appreciation of mathematics in students who do not anticipate a need for mathematics in their future studies. The course will enable them to develop logical, critical, and creative thinking; an understanding of the principles of mathematics; patience and persistence in problem-solving; and the ability to communicate clearly and confidently in a variety of contexts. The curriculum will focus on 140 hours of instruction, over two years, on eight topics—number and algebra, sets, logic and probability, functions, geometry and trigonometry, statistics, introductory differential calculus, and financial mathematics—plus a student-led project.

Group 5: Mathematics - SL (Grade 12)

This course is designed for students who wish to gain a degree of understanding and competence to better understand their approach to other subjects. The curriculum will focus on 150 hours of instruction, over two years, on the following topics: functions; sequences and series; circular functions and trigonometry; vectors; statistics and probability; and calculus. In addition, students will prepare a short exploration on a topic of their choosing (Mathematical Exploration). This will allow them to investigate an area of interest, which may or may not be connected to the curriculum but should be at or above the level of the course. A graphing calculator is required. This course is taught in English.

Group 5: Mathematics - HL (Grade 12)

This course is designed for students who wish to study mathematics in depth, either as a subject

in its own right or to pursue their interests in areas related to mathematics. The curriculum will focus on 250 hours of instruction, over two years, on the following topics: algebra; functions; equations' circular functions; trigonometry; vectors; statistics and probability; and calculus.

Calculus Option: Students in HL will complete an additional unit on calculus covering a deeper range of topics, including Taylor series and Maclaurin series.

Mathematical Exploration: Students will prepare a short exploration on a topic of their choosing. This will allow them to investigate an area of interest, which may or may not be connected to the curriculum but should be at or above the level of the course. A graphing calculator is required. This course is taught in English.

Group 5 (for the Class of 2021)

Students have different needs, aspirations, interests, and abilities. For this reason, there are two different subjects in mathematics, each available at SL and HL. These courses are designed for different types of students: those who wish to study mathematics as a subject in its own right or to pursue their interests in areas related to mathematics, and those who wish to gain understanding and competence in how mathematics relates to the real world and to other subjects. Each course is designed to meet the needs of a particular group of students.

Group 5: Mathematical Application and Interpretation - SL (150 hours)

- Number and Algebra - 16 hours
- Functions - 31 hours
- Trigonometry and Geometry - 18 hours
- Statistics and Probability - 36 hours
- Calculus - 19 hours
- Mathematical Exploration - 30 hours

This course is intended for students interested in the application of mathematics to solve everyday problems and offers good preparation for the study of social sciences, humanities, certain economics courses, statistics courses, and the arts.

Group 5: Mathematical Analysis and Approaches - SL (150 hours)

- Number and Algebra - 19 hours
- Functions - 21 hours
- Trigonometry and Geometry - 25 hours
- Statistics and Probability - 27 hours
- Calculus - 28 hours
- Mathematical Exploration - 30 hours

Group 5: Mathematical Analysis and Approaches - HL (240 hours)

- Number and Algebra - 39 hours
- Functions - 32 hours
- Trigonometry and Geometry - 51 hours
- Statistics and Probability - 33 hours
- Calculus - 55 hours
- Mathematical Exploration - 30 hours

Mathematical Analysis and Approaches - SL and HL

This course is for students who want to pursue a university course with a substantial mathematical element, such as engineering, physics, or technology. Students will become fluent in the construction of mathematical arguments and develop strong skills in mathematical thinking. They also will explore real and abstract applications of these ideas. Students who take this course are those who enjoy the thrill of mathematical problem-solving and generalization.

Core: Theory of Knowledge (Grades 11 and 12)

Theory of Knowledge (TOK) is a course that fully explores what it means to think critically. Students focus on inquiring into the process of knowing, rather than on acquiring a specific body of knowledge. They learn to examine how knowledge is built and evaluated by individuals and societies, recognize the validity of different perspectives, and learn to test and challenge their own assumptions. As part of the IB Diploma Program core, TOK makes use of the knowledge gained in other subject courses, as well as knowledge gained outside the classroom from the media or through CAS (Creativity, Activity, Service), for example, to pursue its exploration. While TOK is not a traditional content-focused course, to say that TOK is a course without content would be misleading. In order to succeed, students must become fluent in the specific analytical terminology of TOK and know and be able to analyze the various Ways of Knowing (WOKs), as well as the various Areas of Knowledge (AOKs). Each Area of Knowledge has a specific Knowledge Framework, which students will learn as well.

The central features of the TOK course are critical analysis questions, or Knowledge Questions. In order to effectively create and “unpack” Knowledge Questions, students need to be able to analyze knowledge claims and distinguish between shared knowledge (the sort gained from studying a given content area, for example) and personal knowledge (the sort that is difficult to communicate to others, such as experiential knowledge or certain abilities).

There are two assessment tasks in the TOK course: the essay and the presentation. At the end of the first year, students prepare an oral presentation, to be assessed internally, based on a real-world situation in which they explore a fundamental Knowledge Question that they have extracted from the situation. At the end of the second year, students write a TOK essay based on one of six prescribed titles published earlier in the year by the IBO. This essay is externally assessed and counts for two-thirds of the student's overall TOK exam score.

Core: Creativity, Activity, Service (CAS)

CAS involves students in a range of activities alongside their academic studies. It enables them to enhance their personal and interpersonal development by learning through experience and provides opportunities for self-determination and collaboration with others, fostering a sense of accomplishment and enjoyment from the work. Students reflect on their CAS experiences as part of the IB Diploma Program and provide evidence of achieving eight learning outcomes for CAS.

The three strands of CAS, which are often interwoven with particular activities, are characterized as follows:

Creativity - Arts and other experiences that involve creative thinking

Activity - Physical exertion contributing to a healthy lifestyle, complementing academic work elsewhere in the IB Diploma Program

Service - An unpaid and voluntary exchange that has a learning benefit for the student. The rights, dignity, and autonomy of all those involved are respected.

In order to demonstrate these concepts, students are required to undertake a CAS Project. The project challenges students to show initiative, demonstrate perseverance, and develop skills such as collaboration, problem-solving, and decision-making.

CAS is also an important counterbalance to the academic pressures of the IB Diploma Program. This course is taught in English.

Core: Extended Essay (EE)

The Extended Essay is an in-depth study of a focused topic chosen from the list of approved IB Diploma Program subjects—normally one of the student's six chosen subjects for the IB Diploma. It is intended to promote high-level research and writing skills, intellectual discovery, and creativity. It provides students with an opportunity to engage in personal research on a topic of their choice, under the guidance of a supervisor. This in-depth study leads to a major piece of formally presented, structured writing in which ideas and findings are communicated in a reasoned and coherent manner appropriate to the subject chosen.

The Extended Essay is compulsory for all IB Diploma Program students. It is the result of approximately 40 hours of work by the student and presented as a formal piece of scholarship containing no more than 4,000 words. In the course of working on the Extended Essay, students are provided the opportunity to develop research, communication, creative, and critical-thinking skills; engage a systematic process of research appropriate to the chosen subject; and experience the excitement of intellectual discovery. Although students are provided with some guidance from their supervisors at various stages of the process, the Extended Essay is largely meant to provide them with the opportunity to engage in independent research and writing.

The Extended Essay is externally assessed against common criteria, which is interpreted in ways appropriate to each subject. In combination with the grade for Theory of Knowledge, the Extended Essay contributes up to three points to the total score for the IB Diploma. This course is taught in English.

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