

## Middle School Courses of Study

The following comprehensively lays out the available coursework for grades 6, 7, and 8 at AISG. Additionally, each teacher will post course syllabi on their respective intranet pages for parents and students alike to access at any time:

### Mathematics

AISG Middle School Mathematics offers a differentiated instruction and assessment model "Challenge by Choice" within each classroom. Students are encouraged and supported to work at the level which addresses the grade level AERO adapted standards and benchmarks at a complexity and application level that is a suitable challenge for them. The "text" resources for all math courses at the MS level are digital and kept on each student's laptop.

#### Grade 6 Math

Math 6 stresses the importance of mathematical exploration within the classroom. The program teaches and encourages students to become more adept at problem solving, communicating mathematically, and integrating technology into their learning, while laying some of the foundations for the more abstract rigor of mathematics at higher grade levels.

Topics covered are number patterns, decimals, fractions, equations involving single variables, number theory (divisibility, Prime Factorization, LCM, GCF etc.), statistics, probability, and appropriate geometric concepts.

#### Grade 7 Math

This course continues to enhance the student's understanding of the math process and content and further develop their thinking, from concrete to spatial to abstract. A strong problem-solving emphasis continues, as does the integration of concepts with the real world. The major topics include decimals, fractions, percent, ratios and proportions, coordinate geometry, probability and statistics, surface area and volume, graphing, and basic Algebra.

#### Grade 8 Math

Integrated Math 8 begins a student's path into higher-level mathematical thinking. The course integrates grade-appropriate concepts of Algebra and Geometry, which are then continued in High School. Integrated Math 8 topics include recognizing and developing patterns using tables, graphs and equations. Mathematical modeling is stressed as a methodology for approaching the solution to problems.

Students explore operations on algebraic expressions and apply mathematical properties to algebraic equations. Students also problem solve using equations, graphs and tables and investigate linear relationships. Reinforcement of topics from two-dimensional Geometry is integrated into this curriculum. applications from the areas of area and perimeter, the Pythagorean Theorem and its applications, as well as geometric proportion. Finally, instruction in the area of mathematical probability is provided to reinforce use of fractions and numerical modeling. All students are expected to have a TI Graphing Calculator to use the entire year.

## **English Language Arts**

English is the language of instruction and is used as a vehicle for thought, creativity, reflection, learning, and self-expression. English skills involve speaking, listening, reading, writing and viewing in different contexts. Students learn to respond appropriately to a variety of texts while developing a lifelong interest in language and literature.

The Middle School English Language Arts program is modeled on the Readers' and Writers' Workshop, which is a continuation of the practices in our Elementary School. Critical and creative approaches are used to study and analyze a variety of literature. An independent reading program encourages positive reading habits and enhances all aspects of language development. Language skills are also taught through interdisciplinary studies.

### **Grade 6 English**

English 6 is designed to promote the acquisition of those skills necessary to develop and succeed in four key areas: Reading, Writing, Listening, and Speaking. All of these are regularly assessed. Students learn to question appropriately in an environment that supports creative reflection.

Instruction emphasizes student use of background knowledge, context clues, and vocabulary to support literary analysis. Further, students are encouraged to describe and connect the essential ideas, arguments, and perspectives of course materials by using their knowledge of text structure, organization, and purpose. Students also strive to clarify ideas as they connect them to other literary works. Finally, time is devoted to fostering positive cooperative learning experiences (often through the use of technology) and the development of organizational skills.

### **Grade 7 English**

English 7 presents a rigorous reading program, combined with instruction in composition, grammar, and vocabulary to build on the skills learned in the sixth grade. Students are introduced to new writing genres and literary elements.

Class discussions and written responses develop critical thinking while formal essays and oral presentations develop writing and speaking skills. The seventh grade English curriculum is designed to foster an enjoyment of reading and language as students gain greater confidence in their abilities as readers, writers, and speakers.

### **Grade 8 English**

English 8 reinforces concepts taught in 6th and 7th grades, while also improving necessary reading and writing skills for the High School curriculum and beyond. Course elements include the development of formal academic writing, critical literature analysis, and oral presentation skills. Integral parts of all units are practice and reinforcement of language usage, vocabulary acquisition, spelling, and reading comprehension skills. Students will study a range of genres, including poetry, short stories, plays, novels, and nonfiction.

## **Integrated Sciences**

Participation in Middle School science courses enables students to develop skills that are relevant and useful to the study and practice of science in everyday situations. They acquire an understanding and knowledge of the concepts, principles and applications of science.

Students develop a curiosity and interest in science and its methods of enquiry. Limitations imposed on science by social, technological, political, ethical, and cultural factors are considered as students develop understandings of science in an historical context relevant to today.

### **Grade 6 Science**

The Grade 6 Integrated Science program engages students in hands-on activities to encourage exploration in scientific inquiry skills, physical, earth/space, and life sciences. Topics studied include: classification of living things, cells and processes, weather, climate and the water cycle, ecology, light, sound, and waves.

Students work individually, in pairs, and in groups to problem solve. Inquiry skills emphasized in Grade 6 are observing, classifying, comparing, questioning, measuring, recording and reporting data, conducting experiments and use of a microscope.

### **Grade 7 Science**

The Grade 7 Integrated Science program engages students in hands-on activities to encourage exploration in scientific inquiry skills, physical, life and Earth sciences. Topics studied include: matter and chemistry, major human body systems, motion and force, energy, rocks, and fossils. Students work individually, in pairs, and in groups to problem solve.

Inquiry skills emphasized in Grade 7 are designing and conducting experiments, measuring skills, using a microscope, and communicating of data with oral and written formats, including formal lab reports.

### **Grade 8 Science**

The Grade 8 Integrated Science program engages students in hands-on activities to encourage exploration in scientific inquiry skills, physical, earth/space, and life sciences. Topics studied include: chemical reactions, electricity and magnetism, Earth science, astronomy, and the environment.

Inquiry skills emphasized in Grade 8 are inferring, identifying and manipulating variables, research skills, data analysis, and presentation and defense of results. The emphasis is on how science is connected to our world.

## **Social Studies**

Middle School social studies has a strong grounding in history, geography, and culture. Throughout their years of study, students encounter the past through the actual voices, and writings and thoughts of historical figures through primary and secondary source documents.

This approach allows students to assess and evaluate historical events and their relevance to today's world. Geography, culture, and economics are integrated into history through a regional approach to the world. Students' work is focused around inquiry and the skills of critical thinking, communication, and personal responsibility.

### **Grade 6 Social Studies**

With a regional focus on North America, Latin America, and Europe, Grade 6 students explore the historical discipline through inquiry and asking questions both of the past and of themselves. Students also explore the genesis of culture and formal society in their studied regions.

Through encounters with a rich tapestry of the past, students learn to use the basic tools of geography, sociology, and history to understand and question the values, beliefs, and traditions of the past and present. Emphasis is placed on current events in each region of study in order to gain understanding of how today's issues were formed by past events and decisions.

### **Grade 7 Social Studies**

With a regional focus on the Middle East and Africa as well as drawing on traditions from around the world, students explore the unique combination of people, beliefs, environments, and economic and historical factors that influenced early societies in these two regions.

They also spend time looking at the important ways societies can unravel at the seams and the factors that pave the way for change. Woven throughout the year's study of societies in transition is the study of global environmental and climatic regions, and the treatment of indigenous peoples around the world.

### **Grade 8 Social Studies**

With a regional focus on Asia, students explore and learn about aspects of the history, culture and geography of the region to understand its past to allow a clear understanding of its current and future state.

There is an emphasis on East Asia due to AISG's location in China and its major economic and political focal point in the modern world. Emphasis is placed on the development of critical thinking (analysis and interpretation), communication, and primary source evaluation skills.

## **World Languages**

A choice of French, Mandarin or Spanish is offered in the Middle School. Each language is taught from beginning level, but there is also provision for background speakers of Mandarin to work at an advanced level. Students are provided with instruction in the four language skill areas: *speaking, listening, reading, and writing.*

Themes from the society and culture of each language are interwoven into the curriculum to provide a context for language study and to deepen students' appreciation of the culture behind the language. A communicative approach is used throughout to provide authentic opportunities for skills practice. Courses offer a strong foundation for future academic study, as well as the practical skills required for daily life. Each course hopes to inspire students to a lifelong passion for language learning.

### **Grade 6 French**

This course is designed to help students develop a basic proficiency in listening, speaking, reading and writing and prepares and motivates them for further study of the French language. The communicative approach is used to introduce vocabulary and structures in order to

develop their awareness of the functions of the language. Authentic materials and cultural information are interwoven throughout the course to provide a framework for proficiency.

### **Grade 7 French**

Grade 7 French, we continue the focus of acquiring basic French vocabulary and grammar started in Grade 6. Through the communicative approach to language teaching and learning, students continue to develop their listening, reading, writing and speaking skills in French.

Songs, comics, nursery rhymes, cartoons and other authentic media, along with various activities such as oral presentations, cooking and storytelling are used to teach and reinforce language acquisition. Topics of study reflect student interest and the basic elements of French language.

Supplementary materials relating to culture are introduced to further develop student language skills as well as increase their awareness of the cultures of the French-speaking world.

### **Grade 8 French**

This course reinforces the primary skills of reading, writing, listening and speaking developed in the first two years of French study. The students' understanding of how the language functions is expanded to include the use of the more complex tenses and advanced vocabulary, allowing them to become more precise in their communication and comprehensive in their understanding. We continue to emphasize French culture throughout the year and use a variety of fun and engaging instructional modalities (many of them digital) to make learning the language a dynamic experience for students.

### **Grade 6 Spanish**

This course is designed to help students develop a basic proficiency in listening, speaking, reading and writing and prepare them for further study of the Spanish language. The communicative approach is used to introduce vocabulary and basic structures through the functions of the language.

Cultural and geographical information is interwoven throughout the course to provide a framework for proficiency in the language and an understanding of the cultures of the countries where Spanish is spoken. Basic present tense is used throughout. Classroom management is conducted in Spanish.

### **Grade 7 Spanish**

This course continues to develop the language skills in Spanish through a communicative approach. Speaking, listening, reading and writing activities relate to the student's daily life. Materials and activities emphasize authentic situations and require thinking, recall and creativity. Students are encouraged to express their own needs and interests in Spanish language. They continue to do this with the use of past tense as well as present and the basic use of commands.

Supplementary materials relating to the culture help to further develop the student's literacy as well as continued cultural awareness of the Spanish-speaking world. Classroom management is conducted in Spanish.

## **Grade 8 Spanish**

This course reinforces previously learned vocabulary and structures and serves as a transition into new material. The students' understanding of how the language functions is expanded to include the use of the present subjunctive mode, allowing them to become more confident in speaking, listening, reading on the continued authentic communication, cultural awareness and reliance on Spanish for comprehension.

## **Grade 6A, 7A, and 8A Mandarin**

These courses are designed for students with a substantial background in reading and writing Chinese. They are literature-based courses that seek to develop students' literacy and their appreciation of Chinese language and culture.

The communicative approach is used to introduce vocabulary and structures throughout the courses. Cultural information is interwoven to provide a framework for proficiency in the language and to deepen understanding of the Chinese cultural and linguistic heritage.

## **Grades 6B, 7B, and 8B Mandarin – Levels I, II, III, and IV**

These courses are designed for non-background speakers of Mandarin with a limited background in reading and writing Chinese. They aim to develop proficiency in listening, speaking, reading, and writing as a student progresses through the higher levels and to prepare them for further study of the Chinese language.

The communicative approach is used to introduce vocabulary and structures throughout the course. Cultural information is interwoven to provide a framework for proficiency in the language and a deeper appreciation of Chinese.

## **Arts**

The Middle School Arts program is designed to provide students with experiences to develop curiosity, interest, and enjoyment of their own creativity and an appreciation for others' work. This is explored through the process of visual and performing arts.

Students learn the language associated with the arts and communicate their thoughts and ideas by creating and performing artwork. Students are given the opportunity to reflect and evaluate their own work while developing receptiveness to visual and performing arts across different times and cultures.

### **Visual Arts**

The aim of the Visual Arts program is to give students the chance to develop and expand their art interests and skills by exploring a variety of materials and techniques, to learn to respect originality in their own and others' work and discover the enjoyment of communicating ideas through visual expression.

The elements of line, shape, color, value, and space are emphasized as basic to composition. The various techniques and processes within the arts of drawing, painting, printmaking, sculpture, and crafts are introduced. Projects may include watercolor and tempera painting, resist painting, value drawing, pastel drawing, perspective, papier-mâché sculpture, plaster carving, ceramic mixed-media work, and linoleum block printing.

Through group critiques of their own work and the work of professional artists and journal reflection, students learn to use objective standards to interpret and judge art. Additionally, they develop confidence in their ability to discuss aesthetic qualities.

### **Performing Arts/Drama**

Middle School Drama uses the study of theater arts as a tool to develop the creative and interpersonal potential of all students. Through focused warm-ups, team-building activities, theater workshops, improvisational acting exercises, group projects, and exposure to theater fundamentals, students will learn to perform in front of an audience, to work cooperatively in small and large groups, and to express themselves more openly, clearly, and creatively.

In addition to learning valuable lessons about conflict and compromise, finding their voice, and refining their communication skills, students also have a lot of fun. The culminating drama experience for 6th, 7th, and 8th grade entails creating and performing in a class production.

### **Music**

Each AISG Middle School student takes some form of music (Band, Strings) in Grades 6 and 7. The rationale is supported by educational pedagogy, aesthetics and social values. Currently [brain research](#) shows that corpus callosum development is profound in Grades 6 and 7. It is a perfect age for students to create lasting lateralization capabilities in their growing brains and build strong synaptic connection.

By providing compulsory instrument learning for all students, AISG is adhering to the philosophy that middle school years are the time where students should be afforded the chance to work on and try an experience that may be unfamiliar, and in doing so, are given new options to forge uncharted interests or passions.

Aesthetically, if students are not exposed to aspects of instrumental music making before Grade 9, there is a perception window that closes and many of the students' preferences will be set. The added benefit of the AISG instrumental program is that students are given a fair opportunity to experience learning an instrument over time so that they can understand the benefit of perseverance in developing and learning new skills. The program helps to strengthen varied discursive and non-discursive communication skills and create opportunities for positive social interactions.

The music program in the Middle School builds sequentially on the music program in the Elementary School and provides the foundation for the music courses offered at the High School level. Band and Strings are offered in all levels of middle school. Instruments are provided for band students, but strings students provide their own instrument (except double bass). Choir is offered as an option in Grades 7 and 8. It is hoped that students will be able to communicate well on their chosen musical instrument by the end of the middle school years.

### **Grade 6 Music**

Students participate in an instrumental music program on either a band (winds, brass, percussion) or stringed (violin, viola, cello or stringed bass) instrument. The program is for students who are beginning to learn to play an instrument, but it is differentiated for those who already have playing experience.

Instructional activities are directed toward achieving a proficient standard in musical performance. The repertoire taught includes music representing diverse genres and styles from various Western musical periods, as well as world music elements.

### **Grade 7 Music**

Students can take courses as instrumental performers, but also have the option of choir. The repertoire will expand on performance expectations taught in Grade 6 with varying degrees of difficulties. Instructional activities are directed toward achieving a good standard in musical performance.

### **Grade 8 Music**

Students can continue to participate in the band, choir, or strings program. The instrumental and choral programs build on knowledge learned in previous music courses, allowing students to continue to develop their understanding of musical concepts, context and history. The instrumental and vocal repertoire instruction consists of a wide variety of genres and with varying degrees of difficulties.

## **Physical Education and Health**

### **Physical Education**

The goal of the Middle School Physical Education program is to provide a fun, nurturing, and active environment that develops the whole student. It is critical that students are exercising their developing bodies as well as their developing minds. To that end, they are exposed to a variety of health, fitness, and sport related activities that promote a continual lifestyle of health and fitness.

To achieve this goal students are encouraged to:

- Participate in a variety of physical activities;
- Develop social skills that demonstrate the importance of teamwork and co-operation;
- Monitor and develop personal fitness and emphasize the importance of physical activity through the use of the Fitnessgram;
- Become aware of movement as a creative and expressive medium;
- Show and share knowledge as well as understanding through self and peer-evaluations.

All grade levels participate in team and individual sports, fitness games and activities, rhythm and movement, and activities and classes that emphasize health and wellness. The expected goal is for every student to develop healthy lifestyle habits that will continue for years to come.

### **Health**

This course is designed to allow students to understand and apply concepts to their own lives and to promote healthy living. Students at each grade level study health and topics are addressed in age-appropriate, sensitive, and fact-based ways. Examples of topics include making healthy choices and wellness, stress, puberty, first aid, nutrition, mental illness, healthy relationships, body systems, diseases and disorders, and preventing substance abuse.



## **Elective Courses**

Grade 7 and 8 students have prescribed elective courses. Each class meets for 40 minutes every four school days. Electives are:

### **Robotics**

This one-semester course for Grade 7 students sees them work in pairs to solve challenges by programming and designing robots using the NXT Mindstorms robotics kits. In addition to having fun and using their imaginations, students work on skills such as team-building, critical thinking, problem solving, and presentation skills.

Using a robotics kit and computer, students solve challenges by programming and constructing robots that can move, react, find their own way, and avoid obstacles. Students initially build a simple tri-wheeled robot and then begin to learn programming. Using a graphical programming environment, students learn software design and progress from moving blocks to sensor blocks to loops and switches, and end with logic and data collection. Following this, students will build robots that can complete challenges.

### **Art of Communication**

This course (one semester for Grade 7 students) applies theory and principles of public speaking with emphasis on preparation and delivery. The course is designed to help students "find their voice" as public speakers. It will also help them to overcome fear of public speaking. Through various projects, students will work on clear English speaking and modulation of tone, volume, body language, and Courses of Study facial expressions. These projects will be both "live" and recorded. This course provides basic procedures for organizing and preparing speeches and ample practice speaking in front of others, so they can develop their own unique speaking styles.

### **Multimedia**

This two-semester course for Grade 8 students sees them learn higher level multimedia technology skills through collaborative and individual projects. The skills may include video, audio, desk-top publishing, graphic design, and web design. Cross disciplinary projects are incorporated into this course.

## **Discovery Classes**

All students participate in two Discovery classes during the school year, each one semester in duration and consisting of students from all three grade levels. The class meets for 45-minutes every four school days. Courses change from year to year and are designed to afford students the opportunity to pursue new areas of interests in a low risk, low pressure environment. As courses are identified and announced, students and parents are informed via their respective Student and Parent RamsNet portals.