

ARMBRAE ACADEMY
UPPER SCHOOL

COURSE SELECTION HANDBOOK

2022 - 2023



TABLE OF CONTENTS

DIRECTORY

Contact Information & Upper School Leadership Team

COURSE SELECTION INFORMATION

- Planning Your Programme & Choosing Courses:
 - Credit Courses
 - Credit Types
 - Prerequisites
 - Nova Scotia Diploma Requirements
 - Armbrae Diploma Requirements
 - Minimum Course Enrollment
 - Information for Students Entering Grade 9 - 12
- ArmbraeEverywhere
- Summer Academy
- Personal Development Credits
- Advanced Placement
- Course Changes

COURSE CATALOGUE

- Courses by Grade Level
- Course Descriptions (Grade 9)
- Course Descriptions by Subject Group (Grades 10 - 12)
 - English & Dramatic Arts
 - Language Acquisition
 - Mathematics
 - Personal Development, Humanities & Social Sciences
 - Science & Technology
 - Visual Arts

ACADEMIC PROGRAMME PLANNING GUIDE

- Designing Your High School Plan
- Math Pathways at Armbrae
- Anticipated Rotation of Elective Course Offerings
- Course Selection Form for 2022/23

CONTACT INFORMATION

Oxford Campus

1400 Oxford Street
Halifax NS, B3H 3Y8
902.423.7920

Coburg Campus

6430 Coburg Road
Halifax NS, B3H 2A6
782.641.3834

UPPER SCHOOL LEADERSHIP TEAM



Steve Clarke

Head of School
sclarke@armbrae.ns.ca



Ally Read

Upper School Director, Head of Guidance
aread@armbrae.ns.ca | @armbraeguidance



Shelley Thomas

Head of English & Dramatic Arts
stthomas@armbrae.ns.ca



Krista Ghanekar

Head of Mathematics
kghanekar@armbrae.ns.ca



Kim MacIntyre

Learning Strategist
kmacintyre@armbrae.ns.ca



Andrew Creighton

AP Coordinator
acreighton@armbrae.ns.ca

COURSE SELECTION INFORMATION

This Course Selection Handbook provides information regarding the courses that may be offered at Armbrae Academy for the upcoming school year. Students will take part in at least one personal academic planning meeting with their guidance counsellor as part of the course selection process. The information from this handbook will help students make decisions regarding the courses they can and should select. It is in the student's best interest to discuss these courses with their guidance counsellor, parents and teachers in advance of making their selections. Student choices determine the courses that will be offered and the timetable for the upcoming school year, therefore it is important for students to select courses carefully. Once the timetable is determined from student course selections, students may not be able to make course changes.

PLANNING YOUR PROGRAMME & CHOOSING COURSES

Students should take time in choosing courses to ensure that they are appropriate for their interests, abilities, and meet admissions requirements for post-secondary programmes of interest. Students are encouraged to discuss this with their guidance counsellor or check the requirements on postsecondary institution websites. Here are some additional tips for students:

- Plan your courses as far as possible into the future. A three-year plan beginning in Grade 10 works best for many students. Note that some courses may be offered on a rotating basis (see [Academic Programme Planning Guide](#) section in this handbook).
- Armbrae provides personalised academic planning support, and our guidance team works closely with students to ensure that they are designing a plan to meet their interests, abilities and long-term goals. Make use of this support in order to make the most informed decisions possible.
- Use the High School Planning tool within MyBlueprint to create one or more potential plans for your high school academic programme. You must be sure to have or plan to complete any prerequisites for the courses that you choose.
- A proposed course may not be offered due to insufficient enrolment. The school may not be able to offer a course described in this handbook should unforeseen circumstances arise or if there is insufficient enrolment. Selecting one or two alternate elective options is recommended.

CREDIT COURSES

In Nova Scotia, courses begin counting as credits at the Grade 10 level. Courses are identified by course title, grade level, credit type, and credit value. A credit earned is recognition of the successful completion of coursework that would normally be completed in a minimum of 110 hours of instructional time. Some courses are assigned 0.5 credit (55 hours) or 1.5 credits (165 hours); further explanation accompanies the course descriptions in the corresponding section of this handbook.

CREDIT TYPES

Each course is categorised as one of the following credit types:

ACAD (Academic): These courses are designed for students who expect to enter college, university or other post-secondary institutions.

ADV (Advanced): These courses are designed to meet the needs of students who have demonstrated an exceptional degree of academic ability or achievement.

AP (Advanced Placement): Indicates the course has been audited by the College Board as an official AP course.

OPEN (Open): These courses are not designed to meet the specific entrance requirements of any post-secondary institution, although individual courses may meet entrance requirements of some institutions and these courses fulfill requirements for graduation.

PREREQUISITES

Prerequisites are recommended or required for certain courses that need the student to possess particular cumulative knowledge and skills to ensure optimum academic success in these courses. If a student wishes to register for a course and has not achieved the recommended prerequisite, the student should consult with their subject teacher and the Head of Guidance.

NOVA SCOTIA DIPLOMA REQUIREMENTS

Grade 12 students require a minimum of 18 credits to graduate. No more than seven of the 18 credits may be from Grade 10 courses, and at least five must be Grade 12 courses. Please note that while our Upper School programme begins in Grade 9, credits toward the Nova Scotia and Armbrae diplomas begin with courses coded at the Grade 10 level. The following are compulsory credits for earning a provincial graduation diploma:

Language, Communication and Expression

- 3 English Language Arts (one at each grade level)
- 1 Arts (dance, drama, music or visual arts)

Science, Mathematics and Technology

- 3 Mathematics (one at each grade level)
- 2 Science (one from Science 10, biology, chemistry, or physics and one other approved science course)
- 1 other from Science or Technology

Personal Development and Social Studies

- 1 Physical Education (physical education or yoga)
- 1 Canadian History
- 1 Global Studies

ARMBRAE DIPLOMA REQUIREMENTS

In addition to the Nova Scotia diploma, the Armbrae Diploma is awarded to students who complete Armbrae's Upper School programme, maintaining high academic standards and demonstrating respect for the school's Core Values by:

- Completing all Nova Scotia High School Graduation Requirements;
- Completing additional courses each year that are required elements of Armbrae's academic programme;
- Maintaining the required course load each year;
- Participating in at least two school-sponsored co-curricular activities per year;
- Completing the minimum service learning requirement each year;
- Abiding by the school's Honour Code.

MINIMUM COURSE ENROLLMENT

Students at Armbræ Academy are required to take a minimum of 21 credits in Grades 10 through 12 (8 in Grade 10; 7 in Grade 11; and 6 in Grade 12) and are encouraged to create a high school plan that allows them to complete between 22 and 24 credits. This plan may include Summer Academy courses and/or Personal Development credits that contribute to each student's unique academic plan.

STUDENTS ENTERING GRADE 9 - FOUNDATION YEAR 1

Students entering Grade 9 will take eight courses. These courses are chosen to fulfill provincial education requirements, provide all students with a strong foundation across disciplines and include Armbræ's unique Leadership 9 course. Strategic acceleration is introduced through the pursuit of a Grade 10 level Fine Arts credit, in order to create opportunities for additional electives in the final years of high school.

STUDENTS ENTERING GRADE 10 - FOUNDATION YEAR 2

Students entering Grade 10 will take eight courses. These courses are chosen to continue to provide all students with a strong foundation across disciplines, as well as to meet a number of high school graduation requirements. Grade 10 students complete Canadian History 11 as part of our accelerated programme and have early exposure to AP-level study through the pursuit of AP Computer Science Principles. Students may create space in their timetable for an additional elective by earning a credit in our Summer Academy programme.

STUDENTS ENTERING GRADE 11 - SPECIALIZATION YEAR 1

Students entering Grade 11 will select seven or eight courses. Compulsory courses provide solid preparation for success in postsecondary studies and keep students on track to complete their graduation requirements. Students complete Global History 12 as part of our accelerated programme and are encouraged to consider taking another Grade 12 or AP-level course as an elective in their Grade 11 year. Students may create space in their timetable for an additional elective by earning a credit in our Summer Academy programme.

STUDENTS ENTERING GRADE 12 - SPECIALIZATION YEAR 2

It is important that students entering Grade 12 have a good understanding of the prerequisites required for postsecondary programmes of interest, and that they have both researched these independently and met with their guidance counsellor to review their plans. Students who expect to be strong candidates for admission must successfully complete at least 5 university acceptable courses at the Grade 12 level (6 or more are recommended and in some cases required). Please note that courses coded as "OPEN" may fulfill some graduation requirements, however they are not typically considered for university admission purposes. Students may create space in their timetable for an additional elective by earning a credit in our Summer Academy programme.

ARMBRAE EVERYWHERE

Additional elective options are available through ArmbraeEverywhere, our online and blended learning programme. We continue to pursue opportunities to enhance course offerings for our students, which allows for increased customization of their personal academic programmes. Enrollment in these courses must be approved by the Head of Guidance to ensure they are appropriate for the student's postsecondary plans and acceptable as transfer credits to be added to a student's transcript. Courses that are offered in-person at Armbrae Academy cannot be replaced by an online or blended learning course unless there are extenuating circumstances. We currently maintain a partnership with Blyth Academy Online; a complete list of course options can be viewed on [their website](#). Note that there is an additional fee for courses taken through an external provider.

SUMMER ACADEMY

Armbrae's Summer Academy provides students with additional learning opportunities and enrichment through a selection of high school credit courses during the month of July. These courses are for students seeking additional or reach-ahead credits, academic acceleration and enrichment and a fun, engaging learning experience. There are also non-credit upgrading options available in some subjects. Registration opens on February 15th and closes May 15th each year. For complete information and a list of courses being offered this summer, please visit the [Summer Academy website on MyArmbrae](#).



PERSONAL DEVELOPMENT CREDITS

High school students who have gained personal development credits from providers approved by the Nova Scotia Department of Education and Early Childhood Development can have these credits recognised on their high school transcripts. One of the student's five elective credits required for graduation can be a personal development credit, but the student can also have additional personal development credits recorded on their transcript as extra credits. For more information, please go to the information page on [Personal Development Credits](#).

ADVANCED PLACEMENT (AP)

Advanced Placement (AP) offers students the opportunity to take one or more university-level courses while in high school. AP courses follow guidelines developed by the College Board, an association recognised by educational institutions across North America and around the world. Each course covers the information, skills and assignments you would find in a corresponding university course.

WHAT ARE THE BENEFITS OF AP?

There are many benefits to pursuing AP:

- **Enrichment:** Challenge yourself with rigorous academic courses.
- **Flexibility:** Choose subjects based on your academic strengths and interests.
- **Preparation:** Experience university-level expectations and content to help you prepare for higher-level studies.
- **University Recognition:** Earn credit, advanced placement, or both, based on your performance on standardized, demanding AP examinations.

WHO SHOULD ENROLL IN AP?

AP-level study is appropriate for students who:

- Have demonstrated a high level of academic achievement.
- Have a willingness to meet the challenges of a rigorous academic course.
- Are ready to explore a subject in greater depth, learn to make connections with larger concepts, develop analytical reasoning skills, and form disciplined study habits that will contribute to their success at university.

WHICH AP COURSES ARE AVAILABLE?

Armbrae offers a select number of AP courses each year, including AP Computer Science Principles, which is typically taken during students' Grade 10 year. This allows all students to experience studying at the AP level and gain experience with AP test-taking. Other AP courses are offered based on student interest and may differ from year-to-year. Students should indicate their interest in AP during their course selection meetings. Students are encouraged to consider studying in any AP subject that is of interest to them, regardless of whether it is available as an official AP course being offered during a given year. The corresponding Armbrae course, independent study and tutorials with their subject teacher and/or a tutor can prepare students for success on an AP exam. Please refer to the [Course Catalogue](#) for a list of potential AP courses for the upcoming year.

COURSE CHANGES

Students who wish to make a change to their timetable must speak with their guidance counsellor and then complete a [Course Change Form](#). All requests will be reviewed by the Head of Guidance and students will be notified of the status of their request prior to changes being officially made to their timetable. The deadline to request course changes for the upcoming academic year is **Friday September 16th, 2022**.

Please note that the timetable and teaching assignments are set well in advance of this date, and changes will only be possible if they are possible within the timetable and do not negatively impact a student's academic plan. Course changes are not permitted based on teacher preference. Keep in mind that all courses offered do not necessarily run every school year. Once course selection for the following year has taken place, those courses with enough students registered in them will run the next year. Should you choose a course that we are not able to run, one of your alternate courses will be placed on your timetable instead.

COURSE CATALOGUE

COURSES BY GRADE LEVEL

Grade 9

Citizenship 9
English Language Arts 9
French 9
Leadership 9
Mathematics 9
Physical Education 9
Science 9

Grade 10

Career Education 10
Drama 10
English 10
French 10 Advanced
Mathematics 10
Mathematics 10 Advanced
Physical Education 10
Science 10
Visual Art 10

Grade 11

Biology 11 Advanced
Canadian History 11
Career Education 11
Chemistry 11 Advanced
Drama 11
English 11
English 11 Advanced
French 11 Advanced
Mathematics 11
Media Studies 11
Precalculus 11
Physics 11 Advanced
Visual Arts 11
Yoga 11

Grade 12

Applied Computer Science 12
Biology 12 Advanced
Calculus 12
Career Education 12
Chemistry 12 Advanced
English 12
English 12 Advanced
Entrepreneurship 12
Food Science 12
Film Studies 12
French 12 Advanced
Global History 12
Mathematics 12*
Mathematics 12 Advanced**
Physical Education Leadership 12
Physics 12 Advanced
Precalculus 12
Visual Arts 12
Writer's Craft 12

*2023/24 onward

**2022/23 only

AP Courses

ADVANCED PLACEMENT

AP Biology
AP Computer Science A
AP Computer Science Principles
AP European History
AP Micro & Macro Economics
AP US History



COURSE DESCRIPTIONS

GRADE 9 LEVEL COURSES

CITIZENSHIP 9

This course focuses on the various facets of citizenship which include an in-depth understanding of the system of governance and its role in society, as well as a look into individual rights, privileges and responsibilities as Canadian citizens. The importance of digital and financial citizenship will also be explored. Through inquiry and project-based learning, learners are provided an opportunity to reflect on their own skills, goals and passions as individuals and as members of a variety of communities and to consider the ways they can be active citizens on local and global scales. Students will also become aware of the importance of perspective and understanding different points of view on issues of community and of Canadian significance and will consider how historic decisions have impacted citizenship in Canada and around the world.

ENGLISH LANGUAGE ARTS 9

Our Grade 9 English course is designed to develop the reading, writing, media literacy and oral communication skills that students need for success in their high school academic programmes, their daily lives and in post-secondary studies. Students will analyse literary texts from contemporary and historical periods; interpret informational and graphic texts; and create oral, written and media texts in a variety of forms. An important focus will be on more careful and critical reading, and the use of strategies that contribute to effective communication. The course is intended to prepare students for Armbræ's Grade 10 English course.

Prerequisite: English Language Arts 8

FRENCH 9

In French 9, all four language-skills are emphasised: listening, speaking, reading and writing. Focusing on a variety of themes, students will be able to develop the four linguistic skills through functional and realistic use of language in meaningful contexts. Students will experience creative works and acquire information from authentic sources; use a variety of grammatical structures to develop accuracy in using the language, and demonstrate an understanding of, and a comfort with, the spoken language. They will also develop an appreciation of Francophone culture. Language learning demands active engagement in the classroom; therefore, students are encouraged to participate in a positive manner, listen, ask questions, be respectful of the classroom environment, seek help, come to class prepared, submit their work on time, and, of course, to speak French.



LEADERSHIP 9

Leadership 9 is a unique interdisciplinary course that includes a Guidance component. The primary goals of this course are to empower students to understand themselves and the role they play in society, and to aid students in developing greater self-confidence and moral responsibility through serving in youth leadership roles. This course is designed to give students opportunities to accomplish goals and to make positive contributions to the school environment and wider community, as well as to work to develop communication skills that will facilitate decision-making for themselves and others. Every student will demonstrate their individual and cooperative leadership capabilities, as well as their organizational planning and public speaking skills through participation in a variety of activities. Students will study and apply theory to develop skills in the areas of conflict resolution, planning and goal setting, problem solving, group dynamics and teamwork.

MATHEMATICS 9

The Mathematics 9 course is an introduction to higher level mathematics that emphasises both depth and breadth in the understanding of number sense and patterning to ensure a solid foundation in numeracy and algebra. The curriculum fosters the development of mathematically literate students who can extend and apply their knowledge. Students are encouraged to think creatively and critically to solve a variety of problems. Mental math practise is woven throughout the curriculum. This course prepares students for both the Academic and Advanced pathways for mathematics ([see chart](#)). Topics include: rational and irrational numbers, powers and exponents, polynomials, linear equations and inequalities, linear relations, and geometry.

Prerequisite: Mathematics 8

PHYSICAL EDUCATION 9

Physical Education 9 uses a diverse range of physical activities to teach the psychomotor, cognitive and affective learning domains. Such experiences will provide learners with opportunities to understand the connectedness between health-related physical fitness, movement skills, decision-making, relationships, environment, athletics, citizenship and expression of self. This curriculum recognises the need to address current physical inactivity trends across the province and to prepare learners to be physically literate individuals. To develop physical literacy, learners require diverse experiences in different types of physical activities. The development of a learners' physical literacy is one of many positive outcomes of a physical education programme. Physical Education 9 is participation-based and provides the opportunity for learners to practise and grow their skill, competence, creativity, confidence and strategic thinking.

SCIENCE 9

Science 9 is a course designed with the intent to build on students' previous knowledge and understanding of key science topics. Students are expected to further develop their hands-on lab skills and lab report writing skills while starting to build a deeper understanding of the three core sciences: Physics, Chemistry, and Biology. The course aims to continue being 'hands-on' in approach but the student will be exposed to more theoretical Chemistry, Biology and Physics concepts.

COURSE DESCRIPTIONS

GRADE 10 - 12 COURSES BY SUBJECT GROUP

English & Dramatic Arts

DRAMA 10

(OPEN, 1.0 credit)

Grade 10 Drama is an arts course in which students use interpretive, imaginative and dramatic skills to create, entertain and enlighten. The course is composed of four components – foundation, movement, speech and theatre – which focus on the artistic and intellectual growth of the students. Working in small groups and collaboratively as a whole class, we will explore and communicate ideas, experiences and stories through movement and mime, improvisation, dramatisation, choral speech, choric drama, group drama, journal entries, readers' theatre, scene studies and docudrama.

ENGLISH 10

(ACAD, 1.0 credit)

This course is designed to extend the range of oral communication, reading, writing and media literacy skills that students need for success in their secondary school academic programmes and in their daily lives. Students will analyse literary texts from contemporary and historical periods, interpret and evaluate informational and graphic texts, and create oral, written and media texts in a variety of forms. An important focus will be on critical literacy, close reading and the use of strategies that contribute to effective communication. The course is intended to prepare students for Armbrae's Grade 11 English courses.

Prerequisite: English Language Arts 9

DRAMA 11

(OPEN, 1.0 credit)

Grade 11 Drama is an arts course which focuses on students' personal development through the application of drama skills, dramatic processes and the presentation of dramatic works. The course builds on the Drama 10 learning experience but is

also suitable for those new to high school drama class. It begins with foundation experiences to develop confidence and capability, after which students will interpret and present works in a variety of dramatic forms, create and script original works and critically analyse the processes involved in producing drama works. Students will also develop a variety of skills related to collaboration, presentation and the management of drama productions.

ENGLISH 11

(ACAD, 1.0 credit)

English 11 focuses on the development of literacy, communication and critical thinking skills necessary for success in university, college, and daily life. Students will analyse literary texts from various countries and cultures, as well as a variety of informational and graphic texts. They will create oral, written and media texts in a variety of forms for practical and academic purposes. An important focus will be on using language clearly and accurately in a variety of formal and informal contexts. This course is intended to prepare students for Armbrae's Grade 12 English course.

Prerequisite: English 10

ENGLISH 11 ADVANCED

(ADV, 1.0 credit)

This course emphasises the consolidation of the literacy, communication and critical and creative thinking skills necessary for success in academic and daily life. Students analyse a range of challenging literary texts from various periods, countries and cultures; interpret and evaluate informational and graphic texts; and create oral, written and media texts in a variety of forms. Focus is placed on using academic language coherently and confidently, selecting the reading strategies best suited to particular texts and particular purposes for reading and developing greater control in writing. The course is intended to prepare students for their Grade 12 English studies.

Prerequisite: English 10

MEDIA STUDIES 11**(ACAD, 1.0 credit)**

This course emphasises knowledge and skills that enable students to understand media communication in the twenty-first century and to use media effectively and responsibly. Through analysing the forms and messages of a variety of media works and audience responses to them, and through creating their own media works, students will develop critical thinking skills, aesthetic and ethical judgement, and skills in viewing, representing, listening, speaking, reading, and writing.

Prerequisite: English 10

ENGLISH 12**(ACAD, 1.0 credit)**

This course emphasises communication, critical and creative thinking skills for students whose goals include post-secondary study. While the course focuses on literary texts, students will be provided opportunities to select their own texts for independent study and small-group inquiry.

Students will be provided opportunities to extend their knowledge base, thinking processes, learning strategies, self-awareness and insights. Students will also be offered opportunities to design their own learning experiences that they may undertake individually or collaboratively. An important focus will be on using language with precision and clarity and developing control in writing.

Prerequisite: English 11 (Academic or Advanced)

ENGLISH 12 ADVANCED**(ADV, 1.0 credit)**

This course attempts to accomplish two pedagogical goals: preparing students to write the Advanced Placement (AP) English Literature exam and adhering to Nova Scotia Curriculum Outcomes. Students will be expected to incorporate reading, thinking, exploring, discussing, analyzing and responding. Students work in small group situations and individually, responding in a variety of ways. This will enhance individual development by addressing aesthetic expression, citizenship, communication, personal development, problem solving and technical competence - referred to by the Department of Education as Essential Graduation Competencies.

FILM STUDIES 12**(ADV, 1.0 credit)**

This course explores the language of film, emphasising its conventions and styles. Students will analyse a variety of genres from diverse time periods in a consideration of film as a culturally, socially and historically relevant art form. Using interdisciplinary approaches, resources and research methods, students will analyse the techniques and literary conventions of narrative and non-narrative film, investigate the role of authorship in films and consider film as a reflection of the society from which it emerges. They will also learn about the particulars of the film industry and apply their knowledge of film form to casual film-going, as well as to possible careers in film-making, script-writing and journalism. Through project-based learning, students will experiment with the three stages of film production: pre-production, production and post-production where they will conceive, create and promote a short film of their making to be showcased in a student-run film festival.

Prerequisite: English 11 (Academic or Advanced)

THE WRITER'S CRAFT 12**(ADV, 1.0 credit)**

This course emphasises knowledge and skills related to the craft of writing. Students will analyse models of effective writing; use a workshop approach to produce a range of works; identify and use techniques required for specialised forms of writing; and identify effective ways to improve the quality of their writing. They will also complete a major paper as part of a creative or analytical independent study project and investigate opportunities for publication and for writing careers.

Prerequisite: English 11 (Academic or Advanced)

Language Acquisition

FRENCH 10 ADVANCED

(ADV, 1.0 credit)

This course is appropriate for students who have a good knowledge of the French language and have some previous experience studying French. In French 10, students are encouraged to value French Language and French culture, continue to develop listening and oral expression skills, as well as writing and representation skills. These categories encompass both how to communicate in French and cultivate an appreciative attitude towards the language and culture. Students are required to speak only French in class.

Prerequisite: French 9 or equivalent

FRENCH 11 ADVANCED

(ADV, 1.0 credit)

This course is appropriate for students who have a strong knowledge of the French language and have successfully completed the previous level in the subject. In French 11, students explore ways to deepen their appreciation of French Language and French culture, develop advanced listening and oral expression skills, as well as writing and representation skills through the exploration of a wide variety of topics. This course will allow students the opportunity to continue to develop their French capabilities through the practise of the aforementioned categories. These categories encompass both how to communicate in French and cultivate an appreciative attitude towards the language and culture. Students are required to speak only French in class.

Prerequisite: French 10 or equivalent

FRENCH 12 ADVANCED

(ADV, 1.0 credit)

This course is appropriate for students who have successfully completed the previous level in the subject and have an advanced knowledge of the French language. In French 12, students explore ways to further their appreciation of French Language and culture, to finetune their listening comprehension, oral expression skills, as well as their reading comprehension and written

production abilities. Students will explore a wide array of themes, involving historical, contemporary and cultural topics. Students are required to speak only French in class.

Prerequisite: French 11 or equivalent

Mathematics

MATHEMATICS 10

(ACAD, 1.5 CREDIT)

Mathematics 10 focuses on furthering the development of numeracy and algebra skills to ensure that students are prepared for the Academic Mathematics Pathway ([see chart](#)). In this course, students will have an opportunity to consolidate and extend their understanding of linear relations and algebra, as well as explore a rich variety of topics in order to prepare for upper level mathematics courses. Topics include: linear relations, linear systems, linear programming, measurement, trigonometry, algebra (extend/consolidate skills including factoring techniques), introduction to quadratics relations, and financial mathematics.

Prerequisite: Mathematics 9

MATHEMATICS 10 ADVANCED

(ADV, 1.5 CREDIT)

Mathematics 10 Advanced focuses on challenging students to think critically, make connections, work independently, work together, stay organized and be persistent. The goal is for students to become more knowledgeable, efficient and confident as mathematicians; the hope is they come to appreciate some of the beauty and satisfaction of math on the journey. This course is demanding and goes beyond the NS curriculum to meet the primary objective of preparing students for the rigour of Precalculus courses in the Advanced Mathematics Pathway ([see chart](#)). Topics include: linear systems, linear programming, factoring techniques, radicals, quadratic relations (graphing, equations and applications), rational expressions, similar triangles and trigonometry and coordinate geometry.

Prerequisite: Mathematics 9 (min. grade 75%)

MATHEMATICS 11

(ACAD, 1.5 credit)

Mathematics 11 is a university preparatory course for students who do not intend to study calculus. This course emphasises the understanding and application of mathematical theory rather than focusing on proofs and theorems. Topics include: properties of functions, quadratic functions, linear inequalities, statistics, angles, triangles and trigonometry, and measurement.

Prerequisite: Mathematics 10 (Acad. or Adv.)

PRECALCULUS 11

(ADV, 1.5 credit)

Precalculus 11 is a university preparatory course for students who are heading towards a science, engineering, or business degree and/or for students who are passionate about mathematics. It is a highly rigorous and demanding programme that explores many types of functions and their associated applications, as well as provides opportunities for studies to deepen their understanding of proofs. Topics include: properties of functions, applications of quadratic functions, trigonometry and trigonometric functions, exponential and logarithmic functions, and statistics.

Prerequisite: Mathematics 10 Adv. (min. grade 75%)

CALCULUS 12

(ADV, 1.0 credit)

This course is an introduction to single-variable differential and integral calculus, and it covers the material typically found in many first-year university courses. It provides a comfortable, interactive atmosphere in which to learn the rigorous basics of a challenging but beautiful subject. At Armbræ, students take Calculus 12 and Precalculus 12 concurrently. This leads to many opportunities to make timely connections between the two courses, emphasising the relevance and power of both the precalculus and the calculus material. Topics include: piecewise functions, limits and continuity, derivatives and differentiation, applications of derivatives, integrals and integration, and applications of integrals.

Prerequisite: Precalculus 11 (min. grade of 75%)

Corequisite: Precalculus 12

MATHEMATICS 12*

(ACAD, 1.0 CREDIT)

Mathematics 12 is a university preparatory course and is a continuation of the Mathematics 11 programme. There is a focus on understanding and applying theory rather than on proving theorems. Students are provided with a mix of problem solving and calculation based questions. Topics include: financial mathematics, set theory and logic, probability and counting, polynomial functions, and an introduction to exponential, logarithmic and trigonometric functions.

Prerequisite: Mathematics 11 or Precalculus 11

*2023/24 onward

MATHEMATICS 12 ADVANCED**

(ADV, 1.0 CREDIT)

Mathematics 12 Advanced is a university preparatory course and is a continuation of the Mathematics 11 Advanced programme. The topics in this course are similar to those in the Precalculus course, but the focus is on applying the concepts rather than proving them. Topics include: polynomial functions, exponential and logarithmic functions, sequences and series, trigonometry and trigonometric functions, probability and rational functions.

Prerequisite: Mathematics 11 Advanced

**2022/23 only

PRECALCULUS 12

(ADV, 1.5 credit)

Precalculus 12 continues to build the skills and knowledge expected in calculus. It is required for those who will study calculus in university, but it is recommended for students who simply enjoy the beauty and challenge of mathematics. It strives to encourage versatile mathematical thinking, improve skills in creative problem solving, increase confidence and prepare students for the rigour of calculus. Topics include: polynomial functions, rational functions, absolute value and irrational functions, inverse trigonometric functions and trigonometry, sequences and series, combinatorics and an introduction to linear algebra.

Prerequisite: Precalculus 11 (min. grade 75%)

Personal Development, Humanities & Social Sciences

CAREER EDUCATION 10, 11 & 12 (OPEN, 0.5 credit each)

Our Guidance and Career Education programme provides an intentional, structured model for supporting students as they become engaged and productive citizens capable of leading self-sustaining and satisfying lives. This requires learning decision-making and other skills necessary to plan, choose from and navigate the array of options available both during and after high school. Career education focuses on identifying and developing transferable skills, engaging in a variety of experiences and refining talents and abilities that will be needed in life, future studies and careers. Students will start to recognise their strengths and needs in order to create a course of study, or action plan, to pursue through post-secondary education or training as part of a well-balanced life. At each grade level, our Career Education courses include personal development, career awareness, workplace readiness, financial awareness, and portfolio development - these concepts are taught progressively rather than sequentially, meaning that students will continue to build their skills in each area over the course of the three year programme.

PHYSICAL EDUCATION 10 (OPEN, 1.0 credit)

This course will provide students with a variety of fitness and sport experiences to enhance their understanding of personal fitness and personal growth. Physical Education 10 includes some theory components, coupled with predominantly active experiences whereby students will have the opportunity to participate in a variety of indoor and outdoor fitness, sport, and recreational experiences. The emphasis of this curriculum is to provide students with experiences that require them to take and reflect on their personal responsibility for active, healthy living now and throughout life. This course is divided into four modules: Outdoor Pursuits, Exercise Science, Personal Fitness, and Leadership.

CANADIAN HISTORY 11 (ACAD, 1.0 credit)

This course explores social, economic, and political developments and events and their impact on the lives of different groups in Canada since 1867. Students will examine the role of conflict and cooperation in Canadian society, Canada's evolving role within the global community, and the impact of various individuals, organizations, and events on Canadian identity, citizenship, and heritage. They will develop their ability to apply the concepts of historical thinking and the historical inquiry process, including the interpretation and analysis of evidence, when investigating key issues and events in Canadian history since 1867.

YOGA 11 (OPEN, 1.0 credit)

Grade 11 Yoga introduces students to the ancient tradition of yoga. With its potential to bring vibrant health to body, mind and spirit, the intention of this course is for students to develop a personal practise. This practise will not only allow students to maintain their physical health, but also to develop healthy relationships with themselves, with others, and with the world of which they are a part. Students will participate in asana (physical) and pranayama (breathing) practise, personal reflection, partner exercises, and group discussion. The physical aspect of yoga involves gaining and improving strength, flexibility, cardiovascular endurance, balance, and the regulation of energy through breathing and sustained mental focus. All of these skills are of significant benefit to one's overall health and well being as well as other physical pursuits.

ENTREPRENEURSHIP 12 (ACAD, 1.0 credit)

Entrepreneurship 12 is a student-centred course where students are engaged in design thinking and real-life decision making, taking responsible risks to bring their ideas to fruition. This course is designed to support learners in developing the attitudes, skills, knowledge and mindset necessary to meet the many opportunities and challenges of entrepreneurship. This is done through active and experiential learning, and by offering a hands-on perspective as learners engage in entrepreneurial ventures.

GLOBAL HISTORY 12

(ACAD, 1.0 credit)

Global History 12 explores major contemporary global issues, using the discipline of history, in an attempt to answer the question, "How did the world arrive at its current state at the beginning of the Twenty-first Century?" This course is organised into five units: The Global Historian, The Dynamics of Geo-Political Power, The Challenge of Economic Disparity, The Pursuit of Justice and Societal Change. The Global Historian introduces students to the discipline of history and establishes important year-long expectations related to skills and understandings, including the concept of interdependence. The Dynamics of Geo-Political Power examines the "Cold War" as well as the current and future geo-political situation in the world. The Challenge of Economic Disparity investigates the economic disparity between the countries of the "North" and those of the "South" in the world today. The Pursuit of Justice looks at the events and forces that have shaped contemporary conceptions of justice. Societal Change looks at technological development, societal change, as well as the ethical and moral implications of both. Global History 12 students will also be expected to employ research and communication methods appropriate to the discipline of history.

PHYSICAL EDUCATION LEADERSHIP 12

(ACAD, 1.0 credit)

Physical Education Leadership 12 involves students in the pedagogy of youth leadership development that will enable them to understand and demonstrate the necessary skills and characteristics to aid in their development as leaders, particular to the provision of physically active experiences within the school and/or surrounding community. Students will explore various leadership styles, analyse the responsibilities and characteristics of effective leaders, demonstrate an understanding of group dynamics and its connection to effective leadership, and be provided with authentic environments for students to serve and further develop as youth leaders. Students will work through the process and complete a substantial service-learning project.

AP EUROPEAN HISTORY

(AP, 1.0 credit)

AP European History is a university-level introductory European history course. Students cultivate their understanding of European history through analysing historical sources and learning to make connections and craft historical arguments as they explore concepts like the interaction of Europe and the world; economic and commercial developments; cultural and intellectual developments; states and other institutions of power; social organization and development; national and European identity; and technological and scientific innovation. Students study the cultural, economic, political and social developments that have shaped Europe from c. 1450 to the present. In this course, students will analyse texts, visual sources and other historical evidence and write essays expressing historical arguments.

AP MICRO & MACRO ECONOMICS

(AP, 1.0 credit)

This course covers the outcomes for both AP Microeconomics and AP Macroeconomics. Students can choose to write one or both of these AP exams. The Micro part of this course introduces students to the principles of economics that apply to the functions of individual economic decision-makers. This course also develops students' familiarity with the operation of product and factor markets, distributions of income, market failure and the role of government in promoting greater efficiency and equity in the economy. The Macro part of this course introduces students to the principles that apply to an economic system as a whole. This course places particular emphasis on the study of national income and price-level determination. It also develops students' familiarity with economic performance measures, the financial sector, stabilization policies, economic growth and international economics. Students learn to use graphs, charts and data to analyse, describe and explain economic concepts.

AP US HISTORY

(AP, 1.0 credit)

In this course, students investigate significant events, individuals, developments and processes in nine historical periods from approximately 1491 to the present. Students develop and use the same skills and methods employed by historians: analysing primary and secondary sources; developing historical arguments; making historical connections; and utilizing reasoning about comparison, causation and continuity and change. This course also provides eight themes that students explore throughout the course in order to make connections among historical developments in different times and places: American and national identity; work, exchange, and technology; geography and the environment; migration and settlement; politics and power; America in the world; American and regional culture; and social structures.

Science & Technology

SCIENCE 10

(ACAD, 1.0 credit)

Science 10 includes the four main focus areas: Weather Dynamics, Chemical Reactions, Motion, and Sustainability of Ecosystems. The main aim of this course is to develop scientific literacy by providing students learning experiences to explore, analyse, evaluate, synthesise, appreciate, and understand the interrelationships among science, technology, society, and the environment.

Prerequisite: Science 9

BIOLOGY 11 ADVANCED

(ADV, 1.0 credit)

The Biology 11 curriculum includes a study of cells, body systems and homeostasis. Students explore the diversity of life in the context of current issues such as epidemics, antibiotic resistance and vaccination. Inquiry is emphasised and students will develop strong laboratory and scientific communication skills.

Prerequisite: Science 10 recommended

CHEMISTRY 11 ADVANCED

(ADV, 1.0 credit)

Chemistry 11 focuses on the following three areas: stoichiometry, structures and properties and organic chemistry. The main aim of this course is to develop scientific literacy by providing students learning experiences to explore, analyse, evaluate, synthesise, appreciate and understand the interrelationships among science, technology, society and the environment. Hands-on laboratory work is integral to this course.

Prerequisite: Science 10

Coerequisite: Precalculus 11

PHYSICS 11 ADVANCED

(ADV, 1.0 credit)

Physics 11 is an introduction to a higher level of Physics where the student needs to develop refined inquiry and problem solving skills to be successful in the course. Learning will take place through lectures, interactive activities and inquiry-based lessons. Students will be assessed through a combination of tests, assignments, research based projects and formal lab reports. This course aims to have a 'hands-on' approach with an opportunity to discover patterns in each concept while applying foundational mathematics skills.

Prerequisite: Science 10

Coerequisite: Precalculus 11

APPLIED COMPUTER SCIENCE 12

(ACAD, 1.0 credit)

This course involves using information and communications technology concepts to solve real-world problems. It gives students the opportunity to further develop and use skills introduced in AP Computer Science Principles course. In each unit, students will investigate the topic of study, explore examples of the work of others, practise using relevant tools and techniques and finally create a significant work of their own. Units will include website design using HTML and CSS; photography in a digital age; 3D design, modelling and printing; making websites dynamic with Javascript; game design; programming electronics using Arduino; and robotics and artificial intelligence.

Prerequisite: AP CSP or permission of the teacher

BIOLOGY 12 ADVANCED

(ADV, 1.0 credit)

The Biology 12 curriculum includes a study of cellular processes, evolution, genetics and an in-depth study of the human body. It includes outcomes from the Nova Scotia curriculum and AP Biology. Students engage in frequent labs and develop inquiry and data analysis skills. They conduct an independent research project that includes: developing their own question, designing and conducting the experiment, analysing the results and presenting their conclusions.

Prerequisite: Science 10

CHEMISTRY 12 ADVANCED

(ADV, 1.0 credit)

Chemistry 12 focuses on the following four areas: thermochemistry; solutions, kinetics and equilibrium; acids and bases; and electrochemistry. The main aim of this course is to develop scientific literacy by providing students learning experiences to explore, analyse, evaluate, synthesise, appreciate and understand the interrelationships among science, technology, society and the environment. Hands-on laboratory work is integral to this course.

Prerequisite: Chemistry 11

Coerequisite: Precalculus 12

FOOD SCIENCE 12

(ACAD, 1.0 CREDIT)

This course explores many relevant scientific issues about food safety and preservation, as well as nutritional values of foods and food commodities. Food Science 12 is designed to be a hands-on exploration and thus, scientific laboratory work is integral. Topics include food constituents, preservation factors, food quality and commodities and food packaging. This course investigates the physical and chemical properties of the constituents of food as well as their role in healthy body systems and in various food commodities. Preservation factors include the exploration of food microbiology and food safety. Food quality and commodities introduces students to subjective and objective quality measurements, sampling and analysis are examined including the sensory

experience of foods. The food packaging unit looks at food labels and packaging for various purposes and audiences.

Prerequisite: Science 10 recommended

PHYSICS 12 ADVANCED

(ADV, 1.0 credit)

Physics 12 is a continuation of the Physics 11 course. Students are expected to further develop the skills and knowledge acquired in Physics 11 by drawing more in-depth conclusions of the material covered and designing their own experiments. This course aims to continue being 'hands-on' in approach but the student will be exposed to more theoretical and mathematical physics concepts such as Quantum, Nuclear and Radiation Physics.

Prerequisite: Physics 11

Corequisite: Precalculus 12

AP BIOLOGY

(AP, 1.0 credit)

AP Biology is an introductory college-level biology course. Students cultivate their understanding of biology through inquiry-based investigations as they explore the following topics: evolution, cellular processes, energy and communication, genetics, information transfer, ecology, and interactions.

Prerequisite: Science 10

AP COMPUTER SCIENCE PRINCIPLES

(AP, 1.0 CREDIT)

This course, based on the College Board's AP Computer Science Principles curriculum, introduces students to the foundational concepts of computer science and challenges them to explore how computing and technology can impact the world. With a unique focus on creative problem solving and real-world applications, Computer Science Principles prepares students for postsecondary studies and their careers. This course covers a broad range of foundational topics such as programming, algorithms, the Internet, big data, digital privacy and security, and the societal impacts of computing.

AP COMPUTER SCIENCE A

(AP, 1.0 CREDIT)

This course introduces students to computer science with fundamental topics that include problem solving, design strategies and methodologies, organization of data (data structures), approaches to processing data (algorithms), analysis of potential solutions, and the ethical and social implications of computing. The course emphasises both object-oriented and imperative problem solving and design using the Java language. These techniques represent proven approaches for developing solutions that can scale up from small, simple problems to large, complex problems. This course covers the College Board AP Computer Science A course curriculum, and is equivalent to a first-semester, university-level course in computer science.

Prerequisite: AP CSP or permission of the teacher

Visual Arts

VISUAL ARTS 10

(OPEN, 1.0 CREDIT)

This course offers students a foundation in visual art-making, art history and cultural studies, and the development of skills in perception and critical reflection. Students will create art through a range of media including drawing, painting, sculpture and printmaking. Students may also learn through photography, digital media, ceramics or textiles. Visual Arts 10 aims to enhance the creative skills of all students, from the novice to the experienced young artist.

VISUAL ARTS 11

(ACAD, 1.0 CREDIT)

Visual Arts 11 expands on the skills learned in Visual Arts 10. Students will assume more ownership of their own art education, creating works of greater personal relevance, sophistication and intensity. Students will also learn to clearly articulate perceptions of their own art as well as the art of their peers, popular media imagery and of art masters. Students will enhance their capacity to

draw and respond to a range of visual and conceptual subjects while also engaging with greater depth, a range of wet and dry media, digital media, sculpture and a variety of elective media. Further, Visual Art 11 exposes students to studies in art history, contemporary art and art theory. Students will work on portfolio requirements to enable them to enter visual art education at the postsecondary level.

VISUAL ARTS 12

(ACAD, 1.0 CREDIT)

Visual Arts 12 leads students to becoming independent young artists who approach their physical and social world with a sense of critical and creative inquiry. Along the way, students will have the opportunity to engage in a variety of projects; some of which are teacher directed and others are student directed. The breadth of projects should allow each student to work through a range of media and aesthetic ideas while also gaining depth in a particular area of focus. Students will also examine and respond to the art and visual ideas of others, art history and art from various cultures, art theory, and contemporary studies, particularly in relation to how it may reflect their own work and life experiences. Students will develop a portfolio that models the best of the depth, breadth and quality of their work. A student-directed public exhibit of student work is part of the culminating assessment for this course. Students will accumulate a body of art work to accompany their personal portfolio in order to apply for further education in visual arts.

ACADEMIC PROGRAMME PLANNING GUIDE

DESIGNING YOUR HIGH SCHOOL PLAN

Choosing high school courses is an exciting process for students. This guide provides general guidelines to help keep students on track with meeting the graduation requirements and taking courses of interest to them. Remember to consider any requirements for your post-secondary plans, and to base these on thorough research and factual information.

We incorporate the use of MyBlueprint's high school planning tool into Leadership 9 and Career Education 10 and 11 classes to provide students with a supportive environment in which to explore their interests and options. When designing the timetable, priority is given to providing students with the credits required for meeting their graduation requirements and the prerequisite requirements for postsecondary studies.

GRADE 9

Students entering Grade 9 in September 2022 take the following courses:

Compulsory Courses:

- Citizenship 9
- English Language Arts 9
- French 9
- Leadership 9
- Mathematics 9
- Physical Education 9
- Science 9

Elective Options (one of):

- Art 10
- Drama 10

GRADE 10

Students entering Grade 10 in September 2022 take the following courses:

Compulsory Courses:

- AP Computer Science Principles
- Canadian History 11
- Career Education 10
- English 10
- Science 10
- Mathematics Option (one of):
 - Mathematics 10
 - Mathematics 10 Advanced
- Physical Education Option (one of):
 - Physical Education 10
 - Yoga 11

Elective Options:

- Students choose 1 additional course from the elective options for which they have met the prerequisite requirements. Students wishing to continue their studies in French should select this as their elective option.

GRADE 11

Students entering Grade 11 in September 2022 take the following courses:

Compulsory Courses:

- Career Education 11
- Global History 12
- English Option (one of):
 - English 11
 - English 11 Advanced
- Mathematics Option (one of):
 - Mathematics 11
 - Precalculus 11
- Science Option (one of):
 - Biology 11 Advanced
 - Chemistry 11 Advanced
 - Food Science 12
 - Physics 11 Advanced

Elective Options:

- Students choose 2 or 3 additional courses from elective options.
-

GRADE 12

Students entering Grade 12 in September 2022 take the following courses:

Compulsory Courses:

- Career Education 12
- Global History 12
- English Option (one of):
 - English 12
 - English 12 Advanced
- Mathematics Course (one of):
 - Mathematics 12 Advanced
 - Precalculus 12

Elective Options:

- Students choose between 2 and 4 courses from all elective options.

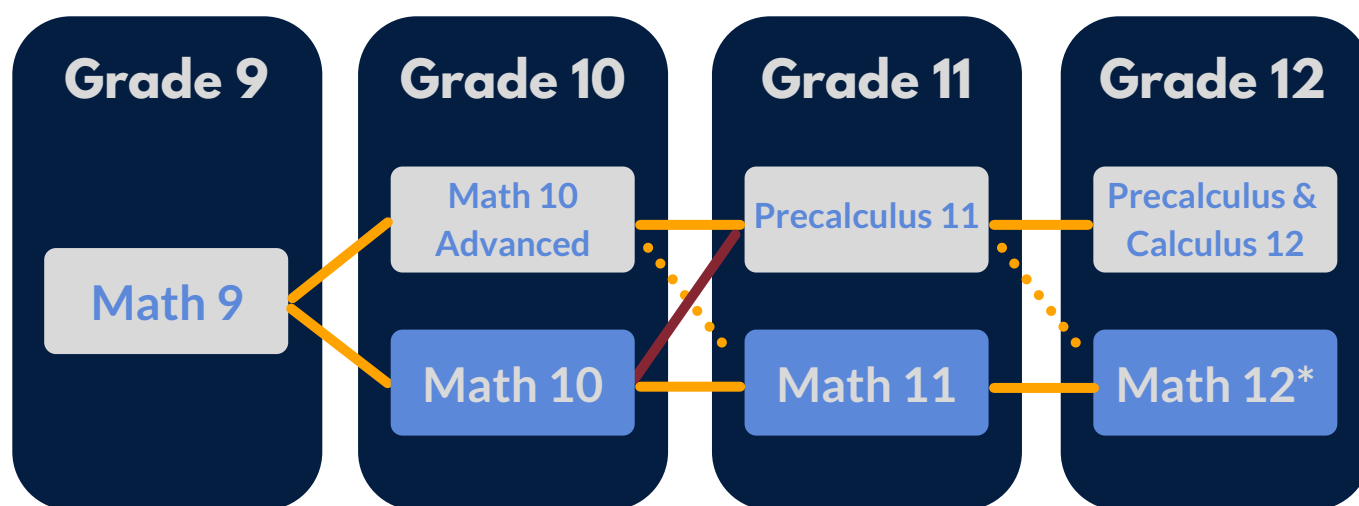


MATH PATHWAYS AT ARMBRAE

It is important for students to choose a mathematics pathway that supports their interests, abilities and postsecondary goals. To help make this choice, students are encouraged to consult with their math teacher to discuss course options and recommendations. It is also very important for students to begin researching, as early in their high school years as possible, the requirements of any post-secondary programme that interests them. Another resource for students is their academic guidance counsellor who would be able to address any question or concerns that students have about their future studies at Armbrae or after graduation.

There are two mathematics pathways offered at Armbrae (please see chart below):

- For students pursuing university programmes that do not require Precalculus or Calculus, the recommended pathway is:
 - Mathematics 9 → Mathematics 10 → Mathematics 11 → Mathematics 12
 - These courses are university preparatory courses and meet or exceed the requirements for many university programmes in Arts, Humanities, Social Science, Applied Computer Science and some Business programmes.
- For students intending to pursue university programmes that require Precalculus or Calculus, the recommended pathway is:
 - Mathematics 9 → Mathematics 10 Advanced → Precalculus 11 → Precalculus 12
 - Calculus 12 is also recommended but only required for some programmes.
 - These courses are university preparatory courses and meet or exceed the requirements for many university programmes in Mathematics, Computer Science, Science, Engineering, Commerce or Health Science.



———— Upgrading course required through Summer Academy

..... Students may move from advanced to academic pathway

*Note: for 2022/23 only, this course will be delivered as an Advanced course

ANTICIPATED ROTATION OF ELECTIVE COURSE OFFERINGS

One of the ways that we are able to offer more choice to students is to rotate upper-level elective courses on a bi-annual basis. To assist students in their planning, the following chart includes the anticipated rotation of some elective courses. Compulsory courses and other electives will be offered on an annual basis, especially those courses required for admission to postsecondary programmes.

2021/22

AP Micro & Macro
Economics

Applied Computer
Science 12

Film Studies 12

2022/23

Entrepreneurship
12

AP Computer
Science A

The Writer's Craft 12

AP US History

2023/24

AP Micro & Macro
Economics

Applied Computer
Science 12

Film Studies 12

AP European History



Course Selection Form

2022 - 2023

Name: _____

Grade in 2022/23: _____

STUDENTS ENTERING GRADE 9

Compulsory Courses:

- Citizenship 9
- English Language Arts 9
- French 9
- Leadership 9
- Mathematics 9
- Physical Education 9
- Science 9

Elective Option (rank 1 & 2):

- ___ Visual Arts 10
- ___ Drama 10

STUDENTS ENTERING GRADE 10

Compulsory Courses:

- AP Computer Science Principles
- Canadian History 11
- Career Education 10
- English 10
- Science 10

Mathematics Option (choose one of):

- ___ Mathematics 10
- ___ Mathematics 10 Advanced

Physical Education Option (rank 1 & 2):

- ___ Physical Education 10
- ___ Yoga 11

Elective Option (from list): _____

STUDENTS ENTERING GRADE 11

Compulsory Courses:

- Career Education 11
- Global History 12

English Option (choose one of):

- ___ English 11
- ___ English 11 Advanced

Mathematics Option (choose one of):

- ___ Mathematics 11
- ___ Precalculus 11

Science Option (choose one of):

- ___ Biology 11 Advanced
- ___ Chemistry 11 Advanced
- ___ Food Science 12
- ___ Physics 11 Advanced

Elective Options (choose 2-3 from list):

STUDENTS ENTERING GRADE 12

Compulsory Courses:

- Career Education 12
- Global History 12

English Option (choose one of):

- ___ English 12
- ___ English 12 Advanced

Mathematics Course (choose one of):

- ___ Mathematics 12 Advanced
- ___ Precalculus 12

Elective Options (choose 2-4 from list):

ALL STUDENTS IN GRADES 10-12

List **at least two** alternate electives (choose from list):

Elective Options

*Please check prerequisites
in course descriptions.*

Grade 10 Level Courses

Drama 10
French 10 Advanced
Visual Art 10

Grade 11 Level Courses

Biology 11 Advanced
Chemistry 11 Advanced
Drama 11
French 11 Advanced
Physics 11 Advanced
Visual Arts 11
Yoga 11

Grade 12 Level Courses

Biology 12 Advanced
Chemistry 12 Advanced
Entrepreneurship 12
Food Science 12
French 12 Advanced
Calculus 12
Physics 12 Advanced
Visual Arts 12
Writer's Craft 12

AP Level Courses

AP Biology
AP Computer Science A
AP Computer Science Principles
AP US History