# CAISL HIGH SCHOOL Program Overview 

## INTRODUCTION

CAISL's High School Program is designed to provide a balanced program of studies that continues to support students' competence within core areas while providing a wide range of program choice that will align with their interests as well as provide a secure basis for continuing onwards to post-Secondary education. As students' progress through High School, they take on more responsibility for choosing the path they wish to take towards graduation. In the final two years of our High School Program, students may choose to enroll within the International Baccalaureate Diploma Program (IBDP) while also earning credits leading towards an American High School Diploma. Regardless as to whether students choose the full IBDP or not, CAISL's High School program provides all students with a solid academic foundation that will leave them well prepared to excel in their post-High School studies anywhere in the world.

Ana Almeida


Secondary School Principal

## PROGRAM OPTIONS

All CAISL students will study for the High School Diploma according to the requirements established by the Board of Trustees. CAISL is licensed to issue an American High School Diploma, valid for entry to Portuguese universities. The- course work and graduation requirements encompass Grades 9 through 12 and does not require external testing systems.

Students may, if they choose, elect to pursue additionally an International Baccalaureate Diploma in the last two years of High School. The decision as to whether or not to pursue the IBDiploma is made at the end of Grade 10. Students who wish to pursue the IBDiploma must continue to pursue the High School Diploma and to meet all requirements for a High School Diploma but will have additional requirements to fulfill the IBDiploma including the external exams in May of the last year of High School. This Program Overview is focused on the 4 -year High School Diploma. The IB Diploma Program has a separate Program Guide. On the next page are outlined some of the essential parameters of each Diploma program.

## AMERICAN HIGH SCHOOL DIPLOMA

Fulfilment of the High School Diploma Graduation Requirements to study core academic areas while encouraging student pursuit of individual interest including the creative and performing arts design, information technology, and sports, both curricular and extracurricular.

Completion of a Graduation Project.
Courses are taken within each academic year to fulfil the Graduation Requirements; students may take different subjects in Grade 11 and Grade 12.

Assessment of student work, including end-of-course (exams) is done by CAISL Teachers.

INTERNATIONAL BACCALAUREATE (IB) DIPLOMA

Prescribes 6 areas of study and very little deviation is permitted.

Completion of the Theory of Knowledge (TOK) course, Extended Essay and CAS are required.

Courses are based on a two-year curriculum and changes are permitted within the first 2 months of Grade 11.

Student work submitted for the IB Diploma is "moderated" by IB Examiners (not CAISL teachers). In May of the 2 nd year of the program, students take exams which are written by the IB Organization and assessed by IB Examiners.

## REGARDING UNIVERSITY ADMISSION

## AMERICAN HIGH SCHOOL DIPLOMA

Accepted as valid Secondary qualifications for university entrance in most countries.

Accepted at all Universities in the USA; if entry into a highly competitive university is sought and the IBDP was available to the student, the student will need to explain why he/she did not pursue the additional qualification.

Accepted by UK universities but it is essential to confirm with each university how the HSD grades are assessed.

Accepted by Portuguese universities, AP Exams or the
Portuguese Provas must also be taken; CAISL is licensed by the Portuguese Ministry of Education to issue an American HS Diploma.

Accepted by most other countries although it is vital to check the specific country requirements well in advance.

## INTERNATIONAL BACCALAUREATE (IB) DIPLOMA

Accepted as valid Secondary qualification for university entrance in most countries.

Accepted at all Universities in the USA and with high enough scores may result in 'advanced standing' (being exempt from some requirements or awarded college credit).

Accepted by UK universities as there is an established table for grade conversions.

Accepted by Portuguese universities.

Accepted by most other countries although it is vital to check the specific country requirements well in advance.

## GRADUATION REQUIREMENTS

In Grades 11 and 12, the course content in some cases is the same for both the High School Diploma and the IB Diploma.

To earn credit for the High School Diploma, the student must meet all of the requirements for successful completion as set and assessed by the CAISL teacher and monitored by the High School Coordinator and the Secondary Principal.

Students pursuing the IB Diploma must meet the requirements for the High School Diploma and, in addition, submit IB-required assignments for moderation or assessment to the IB Organization, which will determine the final score and whether or not the student earns the IB Diploma. (For additional information on the IB Diploma Program, see the CAISL IB Diploma Program Handbook.)

1. Complete eight full-time semesters in grades 9-12 at CAISL or a school deemed by CAISL to be equivalent, with a minimum of 8 courses per semester in grades 9 and 10 and 7 courses in grades 11 and 12 .
2. Be enrolled as a full-time student at CAISL in Grade 12 with no fewer than 7 classes, one of which, with the Secondary Principal's approval, may be from an accredited online provider.
3. Earn 27 credits, distributed as follows:
a. 4 credits in English/Language Arts

2 years of English for Speakers of Other Languages is accepted
b. 3 credits in Mathematics (Algebra I or higher)
c. 3 credits in Science (of which at least 2 must be laboratory science)
d. 3 credits in Social Sciences
e. 2 consecutive years in a Language other than English

Portuguese as a Native/Fluent Language
World Languages—Chinese, French, Portuguese, Spanish
Chinese as a Native/Fluent Language
f. 3 credits in Physical Education
g. 1 credit in Information Technology or demonstrated proficiency
h. 1 credit in Fine Arts (Music, Art, Drama)
i. 7 credits in elective courses: An Elective Course is any course in any subject beyond that required for graduation.
j. Successful completion of a Graduation Project within the last 3 semesters prior to Graduation.

## ABOUT "VIRTUAL HIGH SCHOOL LEARNING"

CAISL has partnered with VHS LEARNING (https://vhslearning.org) to expand the variety of courses we can provide to CAISL High School students. VHS Learning has an extensive range of courses which can be found in its website catalog.

VHS Learning is meant to expand, not replace, the courses CAISL offers. As a general principle, if CAISL offers the course, the same or a close equivalent may not be taken via VHS Learning.

CAISL students in Grades 9 through 12 are eligible to take courses through VHS Learning. Students wishing to take the AP courses are given priority and older students are prioritized over younger ones.

The grades and credits earned through VHS Learning courses will transfer and appear on the student's CAISL transcript. One of the significant advantages of VHS Learning is that it offers 23 Advanced Placement (AP) courses. Advanced Placement courses are college-level and encompass one academic year or one semester. They culminate with an external exam in May. Students who perform well on the AP exam may be eligible for "advanced standing" or for college credit at universities in the United States. In addition, the AP exam results may also be used to support college entrance in other national systems, including Portugal.

Students who are approved by CAISL to enrol in any VHS Learning course for CAISL High School credit will have the fees due to VHS Learning paid by CAISL and will be supported in their studies not only by the VHS Learning course teacher but also by an on-site Coordinator and a CAISL teacher with subject-specific knowledge.


## English Literature \& Composition

Grade 9 English Literature and Composition students study a variety of text types, both literary and non-fiction, further honing their skills of literary analysis. Works studied come from different genres, cultures, and time periods, with an emphasis on the time periods covered in the Modern Civilizations class taken concurrently. Through this, students investigate how cultural experiences impact literature. They analyze thematic development throughout the text, as well as how various texts treat the same themes differently. Ninth grade students use textual evidence, both explicit and inferred, to support summary and analysis. Students determine the impact of various authorial choices and analyze texts to determine author's purpose.
Ninth grade students write routinely over both extended and short time frames for a range of tasks, purposes, and audiences. There is a focus on writing strong thesis statements. They use the writing process to write well-organized texts, with an introduction, a clear thesis statement, relevant supporting details, precise language, formal style and an appropriate conclusion. Their writing incorporates the use of technology during development, collaboration, and production.
Students in ninth grade listen critically to various media, identify and analyze information from a variety of formats, engage in collaborative discussions, and deliver oral presentations. Students pose questions that elicit elaboration and respond to others' questions and comments with relevant observations. In their presentations, students effectively use multimedia components and visual aids for clarification, use appropriate eye contact and volume, and apply the same conventions of standard English when speaking as in writing.

## United States Literature

Grade 10 United States Literature places an emphasis on critical thinking, reading, and writing the thesis-driven essay. Students are expected to continue to improve their skills of literary analysis, building upon ninth grade, and are also exposed to a variety of text types, further honing their skills of literary analysis. During the course of the year, students will become proficient in discussing and analyzing novels, non-fiction texts, and poetry. Students are encouraged to cite strong and thorough textual evidence to support analysis of what the text says explicitly, as well as inferences drawn from the text. Moreover, students seek to determine the meaning of words and phrases as they used in the text, including figurative and connotative meanings, and also analyze the impact of specific word choices by the author and their importance in determining the meaning and tone of a text.
Grade ten also focuses on writing clearly and coherently in a persuasive context. Students are expected to support claims using valid reasoning and relevant evidence. Students write routinely over both extended and short time frames for a range of tasks, purposes, and audiences. They use the writing process to write well-organized, multi-paragraph texts, with an introduction, a clear and arguable thesis statement, relevant supporting details, precise language, formal style and appropriate conclusion. Student writing incorporates the use of technology in each stage of the writing process during development, collaboration, and production.
Tenth graders initiate and participate effectively in a range of collaborative discussions with diverse partners on topics, texts, and issues, building on the ideas of others and expressing their own clear and persuasively. They also become comfortable with presenting information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and so that style is appropriate to purpose, audience, and task.

## Gr. 9 ESL

 Gr. 10 ESL(ENGLISH FOR SPEAKERS OF OTHER LANGUAGES) (GRADES 9 AND 10 ONLY)
Students who still need specialized instruction in learning English, may be placed in English for Speakers of Other Languages (ESL), which is designed to teach students to become academically and socially competent in English. Students who demonstrate intermediate and advanced levels of English acquisition but are not yet ready for English literature and composition classes with native/fluent speakers, are part of the program. These students are taught, based on their individual needs, and may receive support in small ESL groups or be supported in mainstream grade level classes.
ESL teachers regularly monitor student progress during the year, as students improve, to adapt the program according to student needs. This is done through work samples, observations, and official testing. Students transition from ESL when they demonstrate the ability to produce work and demonstrate comprehension mostly comparable to their grade level peers.

GRADES 11 AND 12: There are two options for English at the 11th and 12th grades. Each of these is a two-year course but Year 1 may be taken without continuing to Year 2. Year 2, however, may not be taken without successful completion of Year 1.

## Adv. Language \& Literature (Y1) Adv. Language \& Literature (Y2)

Advanced English Language and Literature is divided into three areas of exploration-the exploration of the nature of the interactions between readers, writers and texts; the exploration of how texts interact with time and space and the exploration of intertextuality and how texts connect with each other. The aim is to learn about the complex and dynamic nature of language and explore both its practical and aesthetic dimensions. Students will explore the crucial role language plays in communication, reflecting experience and
shaping the world. Throughout the course, students will explore the various ways in which language choices, text types, literary forms and contextual elements all affect meaning. Formal and appropriate register is required in both writing as well as speaking.

## Adv. English Language (Y1) Adv. English Language (Y2)

Open to students who are not native speakers but who have the equivalent of 4 years of experience with English. In the first year of the program, the themes studied are Identities, Experiences, Social Organization and Sharing the Planet. Students are taught listening, speaking, reading and writing skills covering a range of texts and registers. They will develop the oral and written skills to communicate at an advanced level. Students will use a variety of strategies to maintain oral exchanges. They will also develop awareness of the importance of language in relation to other areas of knowledge and will become familiar with various cultural features of the target language countries, such as traditions, accents, and expressions.
In the 2nd Year, a new theme is added: Human Ingenuity. The main objective is for students to understand and use language to express ideas and respond to a range of topics with fluency and accuracy. Students will develop international mindedness through the study of the target language and its cultures.

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GRADE 9: Most students study Geometry. Students may be enrolled in Algebra 1 if they have not taken it yet or if they need to solidify their skills.

## Geometry

Geometry is designed to cultivate an in-depth understanding of mathematics. Students focus on developing their process skills through mathematical practices. They make sense of problems and persevere in solving them, reason abstractly and quantitatively, construct viable arguments, and critique the reasoning of others. Students model with mathematics and use appropriate tools strategically. They attend to precision, look for and make use of structure and look for and express regularity in repeated reasoning. Process skills are the essential elements for the mastering of math and will be developed through the critical areas of focus shown below:

1. Establish and use triangle congruence criteria, based on analysis of rigid motions, formal constructions, and proof.
2. Prove theorems using a variety of formats and solve problems about triangles, quadrilaterals, circles, and other polygons.
3. Apply reasoning to complete geometric constructions and explain why they work.
4. Identify criteria for similarity of triangles, use similarity, Pythagorean Theorem and trigonometry to solve problems involving right triangles.
5. Use a rectangular coordinate system to verify geometric relationships, include properties of quadrilaterals and slopes of parallel and perpendicular lines.
6. Apply their knowledge of two-dimensional shapes to consider the shapes of cross-sections and the result of rotating a twodimensional object about a line.

## Algebra 1

In order to cultivate an in-depth understanding of mathematics, students focus on developing their process skills through mathematical practices. They make sense of problems and persevere in solving them, reason abstractly and quantitatively, construct viable arguments, and critique the reasoning of others. Students model with mathematics and use appropriate tools strategically. They attend to precision, look for and make use of structure and look for and express regularity in repeated reasoning. Process skills are the essential elements for the mastering of math and will be developed through the critical areas of focus shown below:

1. Use linear equations and systems of linear equations to represent, analyze, and solve a variety of problems.
2. Recognize equations for proportions as special linear equations, understanding that the constant of proportionality is the slope, and the graphs are lines through the origin.
3. Use a linear equation to describe the association between two quantities in bivariate data.
4. Reason on the structure of linear equations and formulas, as well as polynomials and expressions with exponents and radicals.
5. Strategically choose and implement procedures to solve linear equations in one variable, understanding that when they use the properties of equality and the concept of logical equivalence, they maintain the solutions of the original equation.
6. Solve systems of two linear equations in two variables and relate the systems to pairs of lines in the plane.

GRADE 10: Most students study Algebra 2. Students may be enrolled in Geometry if they have not taken it yet or if they need to solidify their skills.

## Algebra 2

Grade 10 Algebra 2 students focus on developing their process skills through mathematical practices. They make sense of problems and persevere in solving them, reason abstractly and quantitatively, construct viable arguments, and critique the reasoning of others. Students model with mathematics and use appropriate tools strategically. They attend to precision, look for and make use of structure and look for and express regularity in repeated reasoning. Process skills are the essential elements for the mastering of math and will be developed through the critical areas of focus shown below:

1. Produce graphs of functions with and without technology, while identifying important features of the function.
2. Solve systems of equations using substitution, elimination, and matrix methods.
3. Solve quadratic equations with factoring, completing the square, and with the quadratic formula.
4. Use arithmetic and geometric sequences to solve problems and use binomial expansion.
5. Learn the fundamental counting principle and the formulas for permutations and combinations and apply these ideas to problems involving counting.
6. Derive the equations for the conic sections - parabola, ellipse, hyperbola - from initial conditions and solve a variety of problems involving conic sections.

## Mathematical Applications Y1

This course recognizes the increasing role that mathematics and technology play in a diverse range of fields in a data-rich world. As such, it emphasizes the meaning of mathematics in context by focusing on topics that are often used as applications or in mathematical modelling. To give this understanding a firm base, this course also includes topics that are traditionally part of a pre-university mathematics course such as calculus and statistics. This course is for students interested in social sciences, natural sciences, medicine, statistics, business, engineering, some economics, psychology, and design. Student progress will be determined by: internal exams, summative projects/internal assessments, and quizzes.
In Year 1, students will learn the topics of Number and Algebra; Functions; Geometry \& Trigonometry; and Calculus.

## Adv. Mathematical Applications Y1

This course recognizes the increasing role that mathematics and technology play in a diverse range of fields in a data-rich world. As such, it emphasizes the meaning of mathematics in context by focusing on topics that are often used as applications or in mathematical modelling. To give this understanding a firm base, this course also includes topics that are traditionally part of a pre-university mathematics course such as calculus and statistics. This course is for students interested in social sciences, natural sciences, medicine, statistics, business, engineering, some economics, psychology, and design. Student progress will be determined by: internal exams, summative projects/internal assessments, and quizzes.
In Year 1, students will learn the topics of Number and Algebra; Functions; Geometry \& Trigonometry and start the unit of Calculus. Students pursuing the advanced course will be continuously challenged to go further and explore a variety of mathematical concepts including: Graph Theory, Differential Equations, Complex Numbers and Vectors.
It is recommended that a student has at least an A in the Algebra 2 course.

## Mathematical Analysis Y1

Mathematical Analysis is for students who enjoy developing their mathematics to become fluent in the construction of mathematical arguments and develop strong skills in mathematical thinking. They will also be fascinated by exploring real and abstract applications of these ideas, with and without technology. Students who take Advanced Mathematical Analysis will be those who enjoy the thrill of mathematical problem solving and generalization and for students interested in mathematics, engineering, physical sciences, and some economics.
In Year 1, students will learn the topics of Sequences and Series; Binomial Expansion; Functions: Composition, Inverses, Transformations; Quadratic Functions; Exponential and Logarithmic Functions; Geometry \& Trigonometry and Differential \& Integral Calculus; It is recommended that a student has at least an A in the Algebra 2 course.

## Adv. Mathematical Analysis Y1

Mathematical Analysis is for students who enjoy developing their mathematics to become fluent in the construction of mathematical arguments and develop strong skills in mathematical thinking. They will also be fascinated by exploring real and abstract applications of these ideas, with and without technology. Students who take Mathematical Analysis will be those who enjoy the thrill of mathematical problem solving and generalization and for students interested in mathematics, engineering, physical sciences, and some economics. In Year 1, students will learn the topics of Sequences and Series; Binomial Expansion; Functions: Composition, Inverses, Transformations; Quadratic Functions; Exponential and Logarithmic Functions; Geometry \& Trigonometry and Differential \& Integral Calculus; and Proofs. It is recommended that a student has at least an A in the Algebra 2 course.

## Mathematical Applications Y2

This course builds upon the foundation formed in Mathematical Applications Y1, and, as such, is suitable for a variety of students, specifically for those who are interested in the more applied side of mathematics and those interested in using technology. It offers students opportunities to learn important concepts and techniques and to gain an understanding of a wide variety of mathematical
topics. It prepares students to be able to solve problems in a variety of settings, to develop more sophisticated mathematical reasoning and to enhance their critical thinking.
This course is for students interested in social sciences, natural sciences, medicine, statistics, business, engineering, some economics, psychology, and design. These students may need to utilize the statistics and logical reasoning that they have learned as part of this course in their future studies.
In Year 2, all parts of the curriculum are integrated which require students to solve atypical problems. An emphasis on applications of mathematics and the largest section of this year is on Probabilities. This class prepares students to solve problems in a variety of ways, reason and extend their critical thinking skills. Greater focus is given to analysis skills and application, than performing routine operations. For students wishing to extend their knowledge, the level of calculus goes much further, including more in depth and obscure applied situations and further integration rules. Student progress will be determined by: internal exams, summative projects/ internal assessments, and quizzes. Graphing calculators are a fundamental tool for this course. Many questions cannot be solved without the use of the calculator to solve equations, graph functions, make predictions for financial applications and so on. Throughout the course and in all assessments (including the final exams) a graphic calculator is needed and so this a mandatory tool for all students.

## Adv. Mathematical Applications Y2

This course builds upon the foundation formed in Mathematical Applications Y1, and, as such, is suitable for a variety of students, specifically for those who are interested in the more applied side of mathematics and those interested in using technology. It offers students opportunities to learn important concepts and techniques and to gain an understanding of a wide variety of mathematical topics. It prepares students to be able to solve problems in a variety of settings, to develop more sophisticated mathematical reasoning and to enhance their critical thinking.
This course is for students interested in social sciences, natural sciences, medicine, statistics, business, engineering, some economics, psychology, and design. These students may need to utilize the statistics and logical reasoning that they have learned as part of this course in their future studies.
In Year 2, all parts of the curriculum are integrated which require students to solve atypical problems. An emphasis on applications of mathematics and the largest section of this year is on Probabilities. This class prepares students to solve problems in a variety of ways, reason and extend their critical thinking skills. Greater focus is given to analysis skills and application, than performing routine operations. For students wishing to extend their knowledge, the level of calculus goes much further, including more in depth and obscure applied situations and further integration rules. Student progress will be determined by: internal exams, summative projects/ internal assessments, and quizzes.
Graphing calculators are a fundamental tool for this course. Many questions cannot be solved without the use of the calculator to solve equations, graph functions, make predictions for financial applications and so on. Throughout the course and in all assessments (including the final exams) a graphic calculator is needed and so this a mandatory tool for all students.

## Mathematical Analysis Y2

Mathematical Analysis is for students who enjoy developing their mathematics to become fluent in the construction of mathematical arguments and develop strong skills in mathematical thinking. They will also be fascinated by exploring real and abstract applications of these ideas, with and without technology. Students who take Mathematical Analysis will be those who enjoy the thrill of mathematical problem solving and generalization and for students interested in mathematics, engineering, physical sciences, and some economics. In Year 2, students will continue to work on mastery of the concepts explored in year one and will learn new concepts in the areas of Statistics and Probability. Moreover, students will do a personal mathematical exploration into a topic of mathematics that is of particular interest to that student.

## Adv. Mathematical Analysis Y2

Advanced Mathematical Analysis is for students who enjoy developing their mathematics to become fluent in the construction of mathematical arguments and develop strong skills in mathematical thinking. They will also be fascinated by exploring real and abstract applications of these ideas, with and without technology. Students who take Advanced Mathematical Analysis will be those who enjoy the thrill of mathematical problem solving and generalization and for students interested in mathematics, engineering, physical sciences, and some economics.
In Year 2, students will continue to work on mastery of the concepts explored in year one and will learn new concepts in the areas of: Complex Numbers; Review on Systems of Equations; Vectors; Statistics and Probability. Moreover, students will do a personal mathematical exploration into a topic of mathematics that is of particular interest to that student.

GRADE 12 has four options. Each of these is a continuation of the course taught at Grade 11 and Year 2 should not be taken without successful completion of Year 1.

## GRADES 9 AND 10

Science is taught in 4 one-semester classes in Grades 9 and 10.
The goal is to ensure that each student has sufficient familiarity with each of the science domains to enable him/her to make informed choices for further study and careers.
Should it be necessary for a potential transfer to a school in another country, it is possible to take the courses out of the normal sequence (such as both semesters of Biology in Grade 9).


Grades 9 and 10 Science focuses on each student developing the following science and engineering practices or skills:

- Asking questions and defining problems;
- Developing and using models;
- Planning and carrying out investigations;
- Analyzing and interpreting data;
- Using Mathematics and Computational Thinking;
- Constructing explanations and designing solutions;
- Engaging in argument from evidence;
- Obtaining, evaluating, and communicating information.

These skills are developed by studying the following content areas:
IN 9TH GRADE:
Physics: Motion and Stability: Forces and Interactions; Energy: Transformation and Conservation. Biology: Ecosystems: Interactions, Energy and Dynamics; Biological Evolution: Unity and Diversity.

## IN 10TH GRADE:

Chemistry: Structure, Properties, \& Interactions of Matter; The Periodic Table; Chemical Reactions; Stoichiometry. Biology: From Molecules to Organisms: Structures and Processes; Heredity: Inheritance and Variation of Traits

## Physics 2 (Science Elective)

Physics 2: Students who may wish to study for a career which requires advance study in Physics, may choose to take this elective course, normally taken in 10th Grade. Called "Physics 2," this course is intended to prepare students to take the AP Physics 1: Algebra Based test. It covers mechanics, electricity and waves. Physics 2 is also recommended for students who wish to take Advanced Physics/ IB Physics in 11th or 12th grades.

GRADES 11 AND 12:
There are three options for Science at the 11th and 12th grades, Biology, Chemistry and Physics, and one option for a Science-Social Studies Cross-Curricular Course - Environmental Systems and Societies. Each of these is a two-year course but Year 1 may be taken without continuing to Year 2. Year 2, however, may not be taken without successful completion of Year 1.

## Anatomy and Physiology (Science Elective)

Students who wish to pursue Biology or Medicine in the future should consider enrolling in this course, to gain essential basic knowledge about human anatomy and physiology.
Human Anatomy and Physiology focuses on learning about the several systems of the human body, looking into the diverse organs that are part of those systems, and understanding how they work together to ensure internal balance, also known as homeostasis. During this course, students will develop laboratory skills by using microscopes, develop dissection techniques, learn the language of anatomy, and develop laboratory skills using lab equipment to perform hands-on experiments modeling how the human body functions. This course will introduce key knowledge, further developed in Biology 2 (grade 10) and IB/HS Biology (grades 11 and 12).

## Adv. Biology (Y1)

## Advanced Biology (Y2)

In Advanced Biology, students research and understand the living world at all levels - from the cell to the organism, from the Nano to the Macro scale. Students must come to the course, familiar with scientific inquiry and basic statistics, math, and chemistry skills. In Year 1, the core topics explored are Cell biology, Viruses, Molecular biology, Genetics, Biodiversity and Evolution.
In Year 2, the core topics explored are Interactions in Ecosystems and Interactions of Body Systems.

## Advanced Chemistry (Y1) Advanced Chemistry (V2)

In Advanced Chemistry, students will study chemical concepts from a mostly qualitative perspective. While this requires math skills and proportional reasoning, a wide range of student mathematical abilities can be successful in this course.
In Year 1, students will study stoichiometry, atomic structure, periodic trends, structure and bonding, thermodynamics, kinetics and equilibrium.
In Year 2, students will design and implement an independent laboratory investigation and report their findings in an extensive laboratory report. They will study acids and bases, redox reactions, organic synthesis and the medicinal chemistry option.

## Advanced Physics (Y1) Advanced Physics (Y2)

Advanced Physics is an experimental science that aims at understanding and explaining the universe in which we live.
In Year 1, Core topics are studied: A-Space, time and motion; B- The particulate nature of matter; C- Wave behavior; D- Fields; E- Nuclear and quantum physics. Several experimental investigations are also completed. Students who decide to study Physics should have a good mathematical background and should be studying mathematics at an appropriate level.
In Year 2, students study Astrophysics as well as designing and carrying out an investigation resulting in an extensive documented report.

## Adv. Environmental Science (Y1) Adv. Environmental Science (Y2)

In Advanced Environmental Science, students will research and understand how our choices and actions impact ecosystems, the importance of a sustainable use of resources, the dynamic nature of the relationship between the environment and society, and the importance of raising awareness about local and global environmental concerns. This will enable them to adopt an informed personal response to a wide range of pressing environmental issues. A basic knowledge of scientific inquiry and basic statistical and math skills are essential to succeed in this course. Holistic thinking with culture, ethics, economy, society and political interactions in mind is also valuable.
In Year 1, the main topics explored are Foundations, Ecosystems and Ecology, Conservation of Biodiversity and Water, Aquatic Food Production Systems and Societies.
In Year 2, the themes explored are Soil and Terrestrial Food Production Systems and Societies, Atmospheric Systems and Societies, Climate Change and Energy Production, Human Systems and Resource Use.

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## GRADES 9 AND 10

Social Studies in the 9th and 10th Grades encompasses four primary areas of study:

- History, Culture \& Perspective
- Geography, People and the Environment
- Economics, Innovation \& Technology
- Civics, Government and Human Rights.

In 9th and 10th Grade the following courses are required:

## Modern Civilizations

Grade 9 Modern Civilizations focuses on making connections between key events from recent history. The course is ordered thematically to provide students with the conceptual framework and factual background to understand issues in the world today. Students will develop the research, writing and thinking skills necessary to become informed global citizens who are able to take action. Topics include: Democracy vs. Dictatorship, Division, the impact of Imperialism and Colonialism, Communism and Capitalism, and Revolution.

## History of the USA

Grade 10 History of the United States is ordered thematically to provide students with the conceptual framework and factual background to understand issues in the world today. Students will develop the research, writing and thinking skills necessary to become informed global citizens who are able to take action. Topics include: Democracy, Equality, Foreign Policy, and Civil Liberties.

High School Social Studies Electives
In addition to the required 9th and 10th Grade courses, there are two other Social Studies offerings available to students in 9th and 10th Grade. Students in 11th and 12th grades may also elect to take these courses, schedules permitting.

Introduction to Economics (Social Studies Elective)
Introduction to Economics is designed to give students a glimpse into the world of economics. The course will focus on the fundamentals of economics and help students see the connection between economics, mathematics, and the real world.

Introduction to Psychology focuses on providing students with a better understanding of how and why people think and act the way they do. Additionally, students learn and hopefully convey the inquisitive spirit in which psychology is studied, as it enhances our abilities to restrain intuition with critical thinking.

## GRADES 11 AND 12

There are 5 options for Social Studies at the 11th and 12th grades. Environmental Systems and Society, shown in the Science section, is a cross-curricular course which can be taken for either a Science or a Social Studies credit.
Each of these is a two-year course but Year 1 may be taken without continuing to Year 2. Year 2, however, may not be taken without successful completion of Year 1.

## World History (Y1)

## World History (Y2)

World History is a 20th century world history course with a regional focus on Europe.
In Year 1, students develop historiographical skills, source analysis and analytical essay writing skills. These skills are honed in the context of the following historical content: the decline of Russian Tsarism, the Russian Revolutions, Stalinism, the causes, practices and effects of World War I, the rise of fascism in Italy, the German Weimar Republic and the rise of the Third Reich. There are no prerequisites for this course.
In Year 2, the focus is on the causes, practices, and effects of World War II, the origins of the Cold War, the causes, practices and effects of the Korean War, the rise to and consolidation of power of Kim II Sung, and the causes, practices and effects of the Spanish Civil War.

## Adv. Economics (Y1) <br> Adv. Economics (Y2)

Advanced Economics explores microeconomics and macroeconomic ideas, theories and models. The class will focus on the basic fundamental economic problem, scarcity, and how society decides to allocate scarce resources. Students will need to use both their social sciences and mathematic skills to solve complex global problems.
In Year 1, in the first semester, the class will cover microeconomics basics of supply and demand all the way to the complexities of market failures. In the second semester, the class will focus on macroeconomic basics of Aggregate Demand/Aggregate Supply all the way to intricacies of monetary policy.
In Year 2, the topics will include international trade and developmental economics. Both of these sections of the syllabus will focus on the world and how we can use resources efficiently and equitably. The international trade section emphasizes the importance of trade and how the world market moves resources to the correct market. Developmental economics focuses on the growth of economies and how economics can be used to improve the lives of people in less developed countries.

## Adv. Psychology (Y1) Adv. Psychology (Y2)

The Advanced Psychology course aims to develop an awareness of how psychological knowledge is generated, developed and applied. The ethical concerns raised in psychological inquiry are also key considerations of the course. Students learn to understand the biological, cognitive and sociocultural (BCS) influences on human behavior.
In Year 1, BCS correlates of aggressive behavior are explored. Students are introduced to concepts like conformity, important theories such as Social Identity Theory, and experiments conducted by famous researchers as Asch.
In Year 2, students research, conduct and write an experimental report. Then, they develop an understanding of cognitive processes, explore biological and sociocultural origins of attraction, and the role of communication in personal relationships. In addition, students examine the etiologies and treatments of certain disorders (e.g. PTSD), while taking into account cultural differences.

## Adv. Business Studies (Y1) Adv. Business Studies (Y2)

Advanced Business Studies explores business functions, management processes and decision-making in contemporary contexts of strategic uncertainty. Students examine how business decisions are influenced by factors internal and external to an organization, and how these decisions impact upon its stakeholders.
In Year 1, emphasis is placed on Introduction to Business Management, Marketing and Finance. Through the exploration of four concepts underpinning the subject (Creativity, Ethics, Sustainability and Change), students develop their understanding of the interdisciplinary concepts from a business management perspective. In Year 2, the emphasis is on Human Resources and Operations. Links between the topics are central to the course, as this integration promotes a holistic overview of business management.

## Philosophy (Y1) <br> Philosophy (Y2)

This course is taught over two years, with each year of the course resulting in $1 / 2$ of a credit.
The aim is to explore the nature of knowledge and the process of knowing. Through thought-provoking questions, students reflect on the knowledge, beliefs and opinions that they have built from their years of academic studies and their lives outside the classroom. In addition, students examine the credibility of claims they are exposed to in the media and evaluate the methods of inquiry used in different areas of knowledge (Mathematics, Arts, History, Human and Natural Sciences).

## GRADES 9 AND 10

## Língua Portuguesa 9

## Língua Portuguesa 10

A disciplina de Língua Portuguesa 9 tem como objetivo centrar-se na leitura e interpretação de algumas das obras mais conceituadas da literatura lusófona: a interpretação de episódios da única epopeia portuguesa, a leitura de uma peça vicentina, a compreensão de narrativas de autor, contacto com textos líricos e a exploração de textos de caráter informativo. Este percurso visa desenvolver a consciência cultural e crítica do aluno. Promove-se a redação de textos argumentativos, expositivos e criativos. Na componente oral, fomenta-se a preparação e respetiva apresentação oral formal com recurso a instrumentos multimédia.. O programa estimula, também, a aquisição e aplicação de conhecimentos linguísticos através do exercício contínuo de diversos conteúdos gramaticais e estilísticos. Para além disso, promove-se uma reflexão sobre a evolução fonética e semântica da língua portuguesa.
Na eventualidade de os alunos transitarem de FOP Advanced para Língua Portuguesa Transicional, poderão ter uma avaliação diferenciada, atendendo a que se encontram em processo de transição.

A disciplina de Língua Portuguesa 10 tem como objetivo principal proporcionar a aquisição, numa perspetiva diacrónica, de uma visão panorâmica da literatura portuguesa que permita ao aluno caracterizar épocas, períodos e correntes literárias da nossa história, para nela situar os autores e as obras estudadas. Assim, do séc. XVI ao séc. XX, os alunos estudarão: a poesia trovadoresca, a lírica camoniana; o sermão barroco; uma narrativa de Camilo Castelo Branco; um romance queirosiano; o Modernismo e uma peça de Luís de Sttau Monteiro. Além disso, eventualmente, proceder-se-á à exploração de textos de caráter informativo.Desta forma, promove-se a análise textual aliada a uma reflexão sobre o uso de diversas estratégias linguísticas para construir significados; reflete-se sobre as diferentes características de cada género de texto analisado; redigem-se diferentes tipos de texto (texto persuasivo, texto expositivo, outros textos criativos) e organizam-se apresentações orais formais com recurso a instrumentos multimédia. Serão revistos alguns aspetos da gramática portuguesa, numa perspetiva de que a língua é o suporte da literatura.
Na eventualidade de os alunos transitarem de FOP Advanced para Língua Portuguesa Transicional, poderão ter uma avaliação diferenciada, atendendo a que se encontram em processo de transição.

GRADES 11 AND 12
This is a two-year course but Year 1 may be taken without continuing to Year 2. Year 2, however, may not be taken without successful completion of Year 1.

## Lit. e Composição Portuguesa (Y1) Lit. e Composição Portuguesa (Y2)

No 10 ano, estudar-se-ão os temas: "Leitores, Escritores e Textos" e "Intertextualidade - relações textuais", numa perspetiva linguística e literária. Os alunos desenvolverão as suas competências de análise de texto (literário e não literário) e redação de dissertações. Além disso, será desenvolvida a competência da expressão oral: apresentações orais, comentários orais, debate de ideias, entre outros.
Os objetivos da disciplina são os seguintes: conhecer, compreender e interpretar um conjunto de textos de tipologias e géneros diversificados; questionar e inferir os significados gerados pela língua e pelos respetivos contextos, circunstâncias de produção e receção dos textos; reconhecer relações de intertextualidade; analisar atentamente a língua, desenvolvendo a consciência do contexto para a construção dos significados; desenvolver as competências de análise estilística e compreensão de textos, tanto literários como não literários e expor as suas ideias, opiniões e análise quer oralmente, quer por escrito.
No 2 o ano, estudar-se-á o tema "Tempo e Espaço", uma perspetiva linguística e literária. Os alunos continuarão a desenvolver as suas competências de análise de texto e redação de dissertações e a competência da expressão oral.
Os objetivos da disciplina são os seguintes: conhecer, compreender e interpretar um conjunto de textos de tipologias e géneros diversificados; questionar e inferir os significados gerados pela língua e pelos respetivos contextos, circunstâncias de produção e receção dos textos; reconhecer relações de intertextualidade; analisar atentamente a língua, desenvolvendo a consciência do contexto para a construção dos significados; desenvolver as competências de análise estilística e compreensão de textos, tanto literários como não literários e expor as suas ideias, opiniões e análise quer oralmente, quer por escrito.

## FOBJGI LINGU:G3

## French (Levels One, Two, Three and Four)

## Spanish (Levels One, Two, Three and Four)

## Chinese (Levels One and Two)

Foundations of Portuguese (FoP) is offered to students who are learning Portuguese as a foreign language . It is taught at Beginner, Intermediate and Advanced level. This program will give students the opportunity to express themselves in Portuguese, orally and in writing, and understand the culture of Portugal. Students who complete the Foundations of Portuguese program through the Advanced level may be eligible to move into Transitional Língua Portuguesa. During the transition, they will receive sheltered assessment. It is a requirement that all students at CAISL study Portuguese through Grade 9 , either as a native or a foreign language.

CAISL offers French and Spanish as Foreign Languages at levels one, two, three and four; Chinese at levels one, two and three throughout High School, and level four from Grades 10 to 12. The goal for each of these courses is to develop knowledge of the language and increase fluency so that the student will understand the language in a wide range of situations and contexts. Different cultures related to the target language will also be explored.
GRADES 11 AND 12
Students who have more years of study in French, Portuguese or Spanish may be enrolled in Advanced Programs as shown below. These would normally be students who have had at least 4 years of prior study of the language but who are not appropriate for a native/fluent speaker class.
This is a two-year course, but Year 1 may be taken without continuing to Year 2. Year 2, however, may not be taken without successful completion of Year 1.

## Adv. Portuguese (Y1)

Adv. Portuguese (Y2)

## Adv. French (Y1) <br> Adv. French (Y2)

Adv. Spanish (Y1)
Adv. Spanish (Y2)
Open to students who are not native speakers but who have the equivalent of 4 years of experience with the language. In the first year of the program, the themes studied are Identities, Experiences, Social Organization and Sharing the Planet. Students are taught listening, speaking, reading and writing skills covering a range of texts and registers. They will develop the oral and written skills to communicate at an advanced level. Students will use a variety of strategies to maintain oral exchanges. They will also develop awareness of the importance of language in relation to other areas of knowledge and will become familiar with various cultural features of the target language countries, such as traditions, accents, and expressions.
In the 2nd Year, a new theme is added: Human Ingenuity. The main objective is for students to understand and use language to express ideas and respond to a range of topics with fluency and accuracy. Students will develop international mindedness through the study of the target language and its cultures.

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GRADES 11 AND 12 ONLY:

## Adv. Chinese (Y1)

Adv. Chinese (Y2)
Advanced Chinese is divided into three areas of exploration: the exploration of the nature of the interactions between readers, writers and texts; the exploration of how texts interact with time and space and the exploration of intertextuality and how texts connect with each other. The aim is to learn about the complex and dynamic nature of language and explore both its practical and aesthetic dimensions. Students will explore the crucial role language plays in communication, reflecting experience and shaping the world. Throughout the course, students will explore the various ways in which language choices, text types, literary forms and contextual elements all affect meaning. Formal and appropriate register is required in both writing as well as speaking.

Grade 9 Physical Education focuses on teaching students about their physical selves and creating enthusiasm for physical activity while developing their physical skills and appropriate behavior involving sportsmanship and sports etiquette. We provide our students with a balanced program that builds a strong foundation in physical fitness, develops sport performance skills to an advanced level, lead-up games, and an intermediate-advanced understanding of tactics in sports.

## Grade 10 PE

Grade 10 Physical Education is a continuation of skill development from the level above. We continue to focus on individual development and enthusiasm in physical fitness, sports performance skills, and tactics at an intermediate to advanced level.

## Advanced PE

Advanced Physical Education, normally taken in Grades 11 or 12, is designed to help students develop their physical fitness and gain a greater understanding of the role that physical activity plays in a person's overall health. Students are provided with a balanced program that builds a strong foundation in physical fitness as well as in team (when the number of students in class allows) and individual sports. There are two levels, and each is a year-long course ( 1 credit). Students are given the opportunity to learn new sports and master familiar ones. This approach will serve them later in life as they develop more independence and autonomy.
The course covers a wide range of topics including the following: fitness room (personal fitness plan), badminton, tennis, cross country, track \& field, orienteering, hiking, and the physical fitness testing.

## THOBEHOU LECHOMOT

GRADES 9 THROUGH 12
CAISL High School students have the option throughout High School of the following courses:

## Introduction to Programming/3D Design

This course is divided in two sections: Introduction to Programming and 3D Design. Students will learn to code in a programming language. Concepts like variables, values, value types, classes and methods will be addressed. The learning experience is very "handson," so each student can explore the language, with the given concepts, solving a particular problem of interest. Java will be used as the working programming language to create projects of different types, like desktop and mobile applications.
Students will work with Blender to apply concepts of geometry, physics and computer design. From basic shapes, like cubes, spheres, torus or cylinders, they will get more advanced shapes, combining and transforming them. Students will also animate their creations using different virtual materials, lights and camera options to achieve the best results. Mathematical functions will be applied, not as simple abstractions but as a way of achieving results. Blender will be used to create some physical simulations (e.g., fluid, rigid body, force fields). Other rendering techniques like Freestyle will also be used.
GRADES 11 AND 12
Advanced Computer Science is a two-year course but Year 1 may be taken without continuing to Year 2. Year 2, however, may not be taken without successful completion of Year 1.
At the discretion of the Secondary Principal, Advanced Computer Science may count as either a Science credit or an Information Technology credit.

## Adv. Computer Science (Y1) <br> Adv. Computer Science (Y2)

In Year 1, students will learn about theoretical concepts (e.g., binary systems, logical gates) and will also develop some practical skills (e.g., how to develop software applications). The basic content includes System fundamentals; System design basics; Computer organization; Binary representation; Logic gates; Networks; Computational thinking, problem-solving and programming; Thinking procedurally, logically, ahead, concurrently, abstractly; Connecting computational thinking and program design; Introduction to programming; Abstract data structures; Resource management; Control; Object-oriented programming.
In Year 2, students will develop a project that will be assessed internally. The project consists of an application that will solve a real-life problem. Students are encouraged to make a positive contribution to their environment, creating a useful solution and learning in that process. Also, students will be prepared to answer questions about a complex context that changes yearly (e.g., Computer Science and Health Systems, Autonomous Vehicles and Artificial Intelligence). The basic content includes Java and libraries; Object-oriented programming; The JavaFx technology; Relational Database Management Systems.

## High School Art (Level 1 and Level 2)

High School Art has two levels, both of which focus on developing fundamental painting, drawing, and sculpting techniques in a variety of media. Students analyze artworks in relation to pivotal movements in history and various cultures.


Students have two Drama options:

## High School Drama

High School Drama focuses on performance skills and one major production during the school year.

## Introduction to Theater Studies

Introduction to Theater Studies focuses on the relationship between the director and the actor.

Students have three Music options:

## Choir

Choir is an opportunity for students to learn and grow in the area of vocal music. Performances throughout the year are an essential part of the course.

## String Orchestra

String Orchestra is available for advanced string performers with prior consent. Performances throughout the year are an essential part of the course.
GRADES 11 AND 12
There are three additional options for Fine Arts students in 11th and 12th grades.
Each of these is a two-year course but Year 1 may be taken without continuing to Year 2.
Year 2, however, may not be taken without successful completion of Year 1.

## Adv. Art (Y1) <br> Adv. Art (Y2)

Year 1 is devoted to the development of a foundational ability to create an independent body of work. This entails formal art historical study into medias and methods of art production, various critical methodologies for analysis, as well as a survey of major art historical traditions from around the world. Students will also be tasked to: demonstrate a sustained investigation using drawing media in their sketchbooks; initiate curatorial research into chosen thematic areas; and to produce and critique finished works. Out of class work, both in terms of at home artwork production as well as field trips and school sponsored workshops, are important components in developing student abilities. Advanced High School Art 1 and 2 are strongly recommended but students who have not passed through these earlier courses and are highly motivated may still be successful in the course.
Year 2 continues the trajectory begun in the first year with continued development and eventual fulfilment of the process portfolio, comparative study and body of work for the exhibition. Students in the second year are expected to have created a sustaining reservoir of project ideas which they wish to develop in the second year and to have an established process to create independent work without reference to instructor supplied parameters. Class exercises in the second year focus increasingly on refinement and group critique of works in process, exercises in curation designed to ensure cohesiveness of student efforts and discussion of means to effectively communicate the artist's conceptual and expressive intentions through the installation of finished artworks.

> Adv. Theater Arts (Y1)

## Adv. Theater Arts (Y2)

Advanced Theater Arts is designed to enable students to explore Theater course aims to enable students to:

- Explore theater in a variety of contexts and understand how these contexts inform practice;
- Understand and engage in the process of transforming ideas into action;
- Develop and apply theater production, presentation and performance skills, working both independently and collaboratively.

The content is student driven and is selected within the realm of world theater to feed the students' artistic interests and perspectives. The only requisite is that, throughout the course, students be exposed to different world theatrical traditions and practices, and approach it (as mentioned above) from different theater making perspectives (creators, designers, directors and performers).

In Year 1, students are introduced to these goals, and start to work on their research and knowledge through a number of different artistic means. The year ends with a collaboratively created theater project.
In Year 2, theater is a practical subject that encourages discovery through experimentation, the taking of risks and the presentation of ideas to others. It results in the development of both theater and life skills; the building of confidence, creativity and working collaboratively.

## Adv. Music Study (Y1) Adv. Music Study (Y2)

In Year 1, the students will review and learn the rudiments of music, including scales, intervals, tonality, key signatures, meter, rhythm, chords (to the 7th). They will also learn about the evolution of Western Music from the Middle Ages to the Classical Period, while learning about the ethnic music of diverse cultures from all the continents. The three basic options for students to pursue are creating, solo performing, and group performing.
In Year 2, the students will apply their knowledge about music in analyzing scores to demonstrate understanding of the evolution of music writing and performing. They will also learn about the evolution of Western Music from the Romantic Period to the present tendencies, while continue learning about the ethnic music of diverse cultures from all the continents. They will refine, finish and submit their portfolios.
Graduation Project
The successful completion of a Graduation Project is required to receive a CAISL High School Diploma, effective beginning with the Graduation Class of 2020. Through this Project, a student will demonstrate the skills of independent pursuit of a personal interest in an academic and creative context with the guidance of a Mentor Teacher. The Project is begun mid-way through 11th Grade and must be completed by the end of 1st Semester of 12th Grade.

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The goal of PSHE is to offer students the opportunity to learn about their personal, social and health development and to help them find strategies to deal with the main problems that occur in this stage of development. PSHE is taught by the CAISL Personal and Career/College Counselors throughout the school year in small group sessions, lunch time activities, through guest speakers and collaborative projects. While the topics listed below for each grade are those which are anticipated to be taught annually, they may vary depending on the needs of the students.

## Grade 9 PSHE

9th grade students: transition to high school (social, emotional and academic), goal setting, interests and personal skills, decision making, coping skills, responsibility, peer pressure in use of substances, personal safety, respect (prejudice/discrimination/stereotypes, empathy) and sexual health (self-esteem, setting limits, consent, healthy/unhealthy relationships, prevention). Ninth graders will have close contact with the Personal Counselor, College Counselor and High School Coordinator, so that their questions, concerns and comments can be addressed.

## Grade 10 PSHE

10th grade students: self-awareness, responsibilities/expectations, integrity/ethics, motivation/goals setting, decision making, coping skills, addictions, and sexual health (consent, healthy/unhealthy relationships, prevention). Tenth graders will have close contact with the Personal Counselor, College Counselor and High School Coordinator, so that their questions, concerns and comments can be addressed.

## Grade 11 PSHE

11th grade students: time management (deadlines), organizational and study skills, stress management, emotions (rejection/ frustration/depression), decision making, self-reflection (past decisions/consequences, analyzing own abilities/skills, financial awareness). Eleventh graders will have close contact with the Personal Counselor, College Counselor and High School Coordinator, so that their questions, concerns and comments can be addressed.

## Grade 12 PSHE

12th grade students: transitions to college, life skills, stress management, emotions (rejection/frustration/depression), decision making/ consequences, time management (deadlines), organizational skills, drafting curricula vitae, college admission writing and research skills, requirements and entry admissions to different colleges/educational systems. Twelve graders will have close contact with the Personal Counselor, College Counselor and High School Coordinator, so that their questions, concerns and comments can be addressed.

## Graduation Project

The successful completion of a Graduation Project is required to receive a CAISL High School Diploma. Through this Project, a student will demonstrate the skills of independent pursuit of a personal interest in an academic and creative context with the guidance of a Mentor Teacher. The Project is begun mid-way through 11th Grade and must be completed by the end of 1st Semester of 12 th Grade.

