

Grade 10 & 11 Math Options

All math programs are now evaluated on three competencies:

- C1 Solves a situational problem (30%)
- C2 Uses mathematical reasoning (45%)
- C3 Uses mathematical language (25%)

All students in Grade 9 not in the accelerated mathematics course will complete the same math course. This is an enriched course that covers the curriculum required by MELS, but includes other topics. In Grade 10, students can choose between the three options lists below. (Please see the separate section on Selwyn House’s accelerated mathematics option.) Content does vary between options. Students are to choose their option based on their interest and future career path. Mathematical background and aptitude will, however, influence the student’s results and ability to be successful in the course. In order to choose the Science or Technical and Scientific Option, students should have a math mark of higher than 70% in Grade 9. If in doubt about which option to choose we advise all students and their parents to consult with their math teacher or the Director of Senior School before making their choice.

Science Option (S) (465-406 and 565-506)	Technical and Scientific Option (TS) (465-406 and 564-506)	Cultural, Social, and Technical Option (CST) (463-406 and 563-506)
“I am a thinker – I like to get to the bottom of things –“ Key idea – “Analytical”	“I am a thinker and a doer.” Key idea – “Case Study”	“Give me real life applications and tools that I can use.” Key idea – “Hands On”
<p>Intended for students who like to:</p> <ul style="list-style-type: none"> ▪ Seek to understand the origin of different phenomena, to explain them, and to make decisions pertaining to them <p>Focus:</p> <ul style="list-style-type: none"> ▪ Developing formal proofs ▪ Capacity for abstract thinking ▪ Finding, developing and analyzing models within the context of experiments <p>Prepares students for:</p> <ul style="list-style-type: none"> ▪ Studies in the hard sciences (health science/pure and applied) or research 	<p>Intended for students who like to:</p> <ul style="list-style-type: none"> ▪ Explore situations that are both manual and intellectual ▪ Apply the design cycle & input/output system <p>Focus:</p> <ul style="list-style-type: none"> ▪ Defining problems and taking action ▪ Identify the mathematical concepts and processes associated with the design, operation or use of technical instruments ▪ Encourage exploration of different fields of study <p>Prepares students for:</p> <ul style="list-style-type: none"> ▪ Studies in technical fields related to nutrition, biology, physics, business administration, fine arts and graphic arts 	<p>Intended for students who like to:</p> <ul style="list-style-type: none"> ▪ Design objects and activities ▪ Develop projects or participate in them <p>Focus:</p> <ul style="list-style-type: none"> ▪ Stimulate interest in social causes ▪ Allow for a greater use of statistics and discrete mathematics (finite situations involving countable objects) ▪ Bring applications to everyday life situations to become more autonomous citizens <p>Prepares students for:</p> <ul style="list-style-type: none"> ▪ Studies in the arts, communications, the humanities and the social sciences

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<p align="center">MELS Description</p> <p>The <i>Science</i> option is intended for students who seek to understand the origin of different phenomena and how they work, as well as to explain them and make decisions that pertain to them. Students learn to develop formal proofs in situations where there is always a need to confirm a truth. By focusing on the properties of mathematical objects, this option places greater emphasis on students' capacity for abstract thinking in that they are required to perform more complex algebraic operations.</p> <p>The emphasis is on finding, developing and analyzing models within the context of experiments mainly related to different scientific fields. Students who choose this option develop strategies and acquire an academic background that specifically enables them to pursue their studies in the hard sciences or to perhaps eventually specialize in research.</p>	<p align="center">MELS Description</p> <p>The <i>Technical and Scientific</i> option is intended for students who wish to explore situations that sometimes involve both manual and intellectual work. The emphasis is on case studies as well as the development of students' ability to identify errors and anomalies in processes or solutions, with a view to defining the problem and taking appropriate corrective action. It also requires students to identify the mathematical concepts and processes associated with the design, operation or use of certain technical instruments. This option encourages the exploration of different areas of study, but it is especially designed to equip students to work effectively in technical fields related to nutrition, biology, physics, business administration, the fine arts and graphic arts.</p>	<p align="center">MELS Description</p> <p>The <i>Cultural, Social and Technical</i> option is intended for students who like to design objects and activities, develop projects or participate in making them or carrying them out. It stimulates students' interest in social causes and helps them develop their sense of initiative. It involves a greater use of statistics and discrete mathematics, and emphasizes situations that students will encounter in their personal and professional lives. It brings together aspects of mathematics that will help students become autonomous citizens who are active and thoughtful members of society.</p> <p>The learning content for this option allows students to build on their knowledge of basic mathematics. Specifically, it prepares them for studies in the arts, communications, the humanities and the social sciences.</p>
<p>Moving to another option in Grade 11</p> <p>Some topics covered in this course are NOT covered in the TS course. Therefore, to move to the TS option in Grade 11 some supplementary work (ie summer work) may be required.</p>	<p>Moving to another option in Grade 11</p> <p>This is not a subset course of the Science course. There are some topics covered in this course that are NOT covered in the Science option.</p>	<p>Moving to another option in Grade 11</p> <p>Supplementary work (ie a summer course) would be required to move to the S or TS courses in Grade 11.</p>
<p>Admission to CEGEP programs</p> <p>Acceptable for admission to any CEGEP program.</p>	<p>Admission to CEGEP programs</p> <p>Acceptable for admission to any CEGEP program.</p>	<p>Admission to CEGEP programs</p> <p>Acceptable for admission into CEGEP programs such as Fine Arts, Social Studies, but NOT Commerce or Science. (programs where no math is required)</p>

Accelerated Mathematics at Selwyn House School

The Mathematics Department offers an accelerated stream for students with the aptitude and work ethic to complete the course. Students must have achieved at least 85% percent or higher and their teacher’s recommendation to be accepted into the accelerated mathematics course in Grade 9. Students must maintain an 80% average in order to continue in the accelerated course.

Grade 9 Accelerated Mathematics Math 563-306 and Math 565-406 (S)	Grade 10 Accelerated Mathematics Math 565-506 (S)	Grade 11 Accelerated Mathematics Calculus
Students will do the Grade 9 Ministry course, Math 563-306. They will also do the Grade 10 “Science Option” math course, Math 565-406.	Students will do the Grade 11 “Science Option” math course, Math 565-506.	This is equivalent to a Calculus I CEGEP course.
At the end of the year, students receive credit for the Grade 9 and Grade 10 MELS courses.	In June, students will receive credits for the Grade 11 MELS course.	
<p>Changing to a different mathematics course</p> <p>Students may choose to switch to out of Accelerated Math in Grade 10. Exceptionally, there may be students who make this switch in January of their Grade 9 year based on their year-to-date results and in consultation with their parents, their math teacher, and the Director of the Senior School.</p>	<p>Changing to a different mathematics course</p> <p>Students may choose to switch to out of Accelerated Math in Grade 11. Exceptionally, there may be students who make this switch in January of their Grade 10 year based on their year-to-date results and in consultation with their parents, their math teacher, and the Director of the Senior School.</p>	