

# Course Calendar

2017-2018

**ST. MALACHY'S  
MEMORIAL HIGH SCHOOL**

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## HOW TO Use the Course Calendar

This course calendar is used by current Grade 9, 10, and 11 students at St. Malachy's Memorial High School while choosing their courses for the upcoming school year. Use the chart below to determine which pages are relevant to you.

<b>Current Grade</b>	<b>Page References</b>
Grade 9	Students are enrolled in a common, compulsory and non-credit system. Credit courses may be obtained in Grade 10. <ul style="list-style-type: none"><li>• See page 7 for details on which credit courses might be available.</li></ul>
Grade 10	Students entering Grade 11 at St. Malachy's Memorial High School will be following a 5-credit semester, allowing the opportunity for a greater variety of courses and the opportunity to study a subject in greater depth. <ul style="list-style-type: none"><li>• Details of Graduation Requirements can be found on page 24</li><li>• Course Descriptions can be found on pages 8 - 22</li></ul>
Grade 11	Students entering Grade 12 at St. Malachy's Memorial High School will be continuing a 5-credit semester program. <ul style="list-style-type: none"><li>• Details of Graduation Requirements can be found on page 24</li><li>• Course Descriptions can be found on pages 8 - 22</li></ul>



## Credit System

### “How many credits do I need?”

A central component of the semester high school program is the credit system which applies to all grade 11 & 12 course offerings.

- The term **credit** describes a successfully completed course.
- **One credit** corresponds to approximately 90 instructional hours.
- All students are required to obtain **17 credits** in order to be eligible for High School Graduation in New Brunswick.

**Please Note:** Students must be aware that high school graduation does not necessarily mean acceptance to post-secondary institutions. See page 24 for full details of graduation requirements.

## Course Codes

### “What do the numbers mean?”

- The first two digits indicate the grade during which this course is usually taken.
- The third digit indicates the level of difficulty
  - 0 Only available at one level.
  - 1 Enriched university preparatory. These courses generally move at a faster pace and cover the content to a greater depth than the Level 2 course equivalents.
  - 2 Regular university and community college preparatory.
  - 3 Prepares a student to study some one-year courses at community college, and/or business college or to go directly to work.

**Please Note:** The “0” courses vary in level of difficulty. Some “0” courses qualify as university entrance courses; others do not. Students are advised to consult with the Guidance Counselor regarding specific courses. Students planning to go to university or to study certain community college programs must select courses ending in either 1 or 2. Students should seek advice from the Guidance Department with regard to entrance requirements for specific programs.

## Elective Courses

### “Students' programs should be flexible and adaptable.”

- Elective courses are designed to allow students flexibility in completing their requirements for graduation.
- Electives may be chosen from a broad range of subjects, or students may choose to concentrate in one specialized area of curriculum such as science or technology.
- Elective courses selected will often depend on counseling from parents, teachers, guidance personnel, and administrators. Students who plan careers in engineering, for example, must have courses appropriate to the course of studies offered by the post-secondary institution of their choice.
- A key consideration is allowing students as many educational options as possible.

## Course Offerings

### “Course requests are not guaranteed”

- The number of students choosing a course will determine whether or not it will be offered.
- Some courses may only be offered in one semester and not the other.
- All students should provide at least 2 alternative course selections on their course request sheet to ensure they get a complete timetable in September.

## Course

## Requirements

### “Which courses can I take?”

- **Pre-requisites:** Pre-requisites are courses which **must** be completed prior to registration in your selected course.
- **Recommended Mark:** Recommended marks are meant to be used as a **guideline** for students, parents and guardians to use in order to make informed decisions on course requests. Recommended marks refer to course marks attained in a pre-requisite course.



**The Advanced Placement Program**  
“Passion, Energy and Quality Thinking”  
**St. Malachy’s Memorial High School**  
*An AP Capstone Diploma School*

### What is AP?

Advanced Placement is really two things:

- a program of advanced studies intended to allow high school students to work at a university entrance level.
- an international program offering standardized exams that allow students, if successful on the exam, to obtain university credits.

### The Advantages of AP include:

- the opportunity to participate in a challenging program of studies.
- placement with highly motivated students with common interests, both in terms of the subject and in their desire for excellence.
- the opportunity to write an exam that could provide a university credit, advanced standing and considerable tuition savings.

**We offer AP programs in:**

*Art, Biology, Chemistry, English, French, Mathematics, European History, Physics*

#### **AP English Program**

*Grade 10 English 10 (full year)*  
*Grade 11 English 111*  
AP Seminar 120  
*Grade 12 English 121*  
AP English 120

#### **AP French Program**

*Grade 9 FI Language Arts 9*  
*Grade 10 FI Language Arts 10*  
*Grade 11 FI Language Arts 110*  
*Grade 12 FI Language Arts 120*  
AP French 120

#### **AP Capstone Certificate**

*Grade 10 AP Seminar*  
*Grade 12 AP Research*

#### **AP History Program**

*Grade 10 Social Studies 10/FI Social Studies 10*  
*Grade 11 Modern History 111/FI Modern History 111*  
AP European History 120

#### **AP Math Program**

*Grade 10 Numbers Relations Functions 10*  
Foundations of Math 110  
*Grade 11 Pre-Calculus 110*  
Pre-Calculus 120A/B  
*Grade 12 AP Calculus 120 (full year)*

#### **AP Art Program**

*Grade 9 Visual Art 9*  
*Grade 10 Visual Art 10*  
*Grade 11 Visual Art 110*  
*Grade 12 Visual Art 120*  
AP Studio Art 120

#### **AP Biology Program**

*Grade 10 Chemistry 111*  
*Grade 11 Chemistry 121*  
Biology 111  
*Grade 12 Biology 121*  
AP Biology 120

#### **AP Chemistry Program**

*Grade 10 Chemistry 111*  
*Grade 11 Chemistry 121*  
AP Chemistry 120

#### **AP Physics Program**

*Grade 11 Physics 111*  
*Grade 12 Physics 121*  
AP Physics 120

#### **Please note:**

- 1) ***The AP track begins in Grade 10.***
- 2) ***AP exams are written in grades 11/12 in the month of May.***



## AP Capstone

### AP Capstone Diploma Program

St. Malachy's Memorial High School is *one of the few* Canadian high schools, and the *only school in Atlantic Canada*, who offers the new AP Capstone Diploma Program.

#### What is AP Capstone?

- AP Capstone is an innovative diploma program that provides students with an opportunity to engage in rigorous scholarly practice of the core academic skills necessary for successful university completion.
- AP Capstone is built on the foundation of two courses - **AP Seminar** and **AP Research**- and is designed to complement and enhance the in-depth, discipline-specific study provided through AP courses.
- AP Capstone cultivates curious, independent, and collaborative scholars and prepares them to make logical, evidence-based decisions.

#### The Advantages of AP Capstone include:

- Fosters the **critical and creative thinking, argumentation, and research skills** that are at the core of university readiness and essential for lifelong learning.
- Provides a setting to build on the knowledge and rigorous course work of AP in an **interdisciplinary** format.
- Offers students a unique opportunity to **distinguish** themselves to colleges and universities.

#### Option 1: **AP Capstone Diploma**

4 AP Subject Courses\* (Grade 11 & 12)  
AP Seminar\* (Grade 11)  
AP Research\* (Grade 12)

#### Option 2: **AP Capstone Certificate**

AP Seminar\* (Grade 11)  
AP Research\* (Grade 12)

#### **AP Seminar - Course Description**

Students will examine materials such as news stories, research studies, and literary works to craft arguments to support a point of view and communicate them effectively through the use of various media. Students will consider an issue from multiple perspectives, evaluate the strength of an argument, and make logical, fact-based decisions. Students will be assessed through a combination of individual and team projects and presentations as well as through a written exam.

#### **AP Research - Course Description**

Students will work with a mentor in order to explore an academic topic, problem, or issue that interests them and design, plan, and conduct a year-long research-based investigation to address it. The course culminates in an academic thesis paper of approximately 5,000 words and a presentation, performance, or exhibition with an oral defense; where you answer 3-4 questions from a panel of trained evaluators.

**\*Students must attain an AP grade of 3 or higher to be eligible for the diploma/certificate.**



## Course of Studies Grade 9

	English	French Immersion (F.I.)
Full Year Courses	English 9 Math 9	English 9 F.I. Math 9
Semester Courses	Science 9 & 10 Social Studies 9 French 9	F.I. Science 9 & 10 F.I. Social Studies 9 F.I. Language Arts 9
Term Courses	All Grade 9 Students study each of the four specialty subjects for ½ of a semester. <ul style="list-style-type: none"> <li>• Music 9</li> <li>• Visual Art 9</li> <li>• Broad Based Technology 9</li> <li>• Physical Education and Health 9</li> </ul>	

## Course of Studies Grade 10

	English	French Immersion (F.I.)
Full Year Required Course	English 10 A & B OR English 10 (Full Year)	English 10 A & B OR English 10 (Full Year)
Semester Required Courses	Geometry, Measurement and Finance 10 <b>AND</b> Numbers, Relations and Functions 10 <b>OR</b> Numbers, Relations and Functions 10 <b>AND</b> Foundations of Math 110  Social Studies 10 French 10	F.I. Geometry, Measurement and Finance 10 <b>AND</b> F.I. Numbers, Relations and Functions 10 <b>OR</b> F.I. Numbers, Relations and Functions 10 <b>AND</b> F.I. Foundations of Math 110  F.I. Social Studies 10 F.I. Language Arts 10
<b>Electives</b>	<b>Grade 10 students may select up to 4 semester elective courses. Some of these courses may be for credit. Students should select from the options listed below:</b>	
Semester Elective Courses	<ul style="list-style-type: none"> <li>○ Music 10</li> <li>○ Visual Art 10</li> <li>○ Broad Based Technology 10</li> <li>○ Physical Education and Health 10</li> <li>○ Personal Development &amp; Career Planning 10</li> </ul>	
Semester Credit Courses	<ul style="list-style-type: none"> <li>○ Applied Technology 110 <b>AND</b> Mill &amp; Cabinet 120 (2 Credits)</li> <li>○ Biology 111 or 112 (1 credit)</li> <li>○ Chemistry 111 or 112 (1 credit)</li> <li>○ Information Technology 120</li> </ul>	



# ENGLISH

SPR: Mr. Christopher Stacey  
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## Graduation Requirements

All students are required to obtain 3 credits in this subject area. All students must take an English 11 course (2 credits) and an English 12 course (1 credit). Students planning to go to university or to study certain community college programs must select courses ending in either 1 or 2. Students should seek advice from the Guidance Department with regard to entrance requirements for specific programs.

## Required Courses Grade 11

All Grade 11 English courses are year-long. Students must select one of the following:

### English 113

*Prerequisite:* English 10

*Description:* An emphasis is placed on the development of basic reading, writing, and speaking skills. This course is considered an applied language course. Less emphasis is placed on literature and its analysis. The main focus is developing good language and communication skills.

### English 112

*Prerequisite:* English 10

*Recommended Mark:* 65%

*Description:* This course focusses on more academic language practices and is required for university acceptance. Students enhance listening, speaking, reading, and writing skills. Students respond to a variety texts with higher academic complexity, including some text of literary merit. Students will respond through a variety of ways of representation, including some literary analysis.

### English 111

*Prerequisite:* English 10

*Recommended Mark:* 75%

*Description:* English 111 is an enriched English course. It follows a pattern similar to that of English 112 but greater emphasis is placed on close reading of texts and academic writing. The course will move at a faster pace and engage students in a variety of activities.

### English 111 and AP Seminar – AP Pathway

*Prerequisite:* English 10

*Recommended Mark:* 80%

*Description:* Using an inquiry framework, students practice reading and analyzing articles, research studies, and foundational, literary, and philosophical texts; students listen to and view speeches, broadcasts, and personal accounts; and experience artistic works and performances. Students learn to synthesize information from multiple sources, develop their own perspectives in written essays, and design and deliver oral and visual presentations, both individually and as part of a team. Ultimately, the course aims to equip students with the power to analyze and evaluate information with accuracy and precision in order to craft and communicate evidence-based arguments.

## Elective Courses

Students with specific interest in this area can also select from the following options in Grades 11 & 12.

### Writing 110

*Description:* Writing 110 is an elective, academic course, challenging in its requirements, but flexible enough to accommodate the needs and interests of a range of students. Students will have opportunities to write in a variety of forms with relevant and varied purposes for real audiences and occasionally for themselves alone. The course has a flexible, modular structure. All students must complete the Introductory Module, which focuses on process writing. Remaining modules *must* include *at least one from Creative Writing* and *at least one from Expository Writing*, with the remaining choices left to the discretion of the teacher.

### Learning Strategies 110

Registration in this course is limited. Priority is given to students who have yet to successfully complete the English Language Proficiency Assessment (ELPA)

*Description:* The primary purpose of this course is to assist students who have been identified as having processing difficulties who have academic potential and whose goals are to take post-secondary studies. This intervention course is to help these students to cope with the rigor and pace of the high school curriculum and to develop specialized skills, which will equip them for successful transition to post-secondary studies. The program includes reading, writing, researching, and study skills components.



# ENGLISH

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## Required Courses Grade 12

All grade 12 English Courses are semester-long. Students must select from the following:

### English 123

*Prerequisite:* English 113 or 112

*Recommended Mark:* 60%

*Description:* An emphasis is placed on the development of basic reading, writing, listening, and speaking skills. This course is considered an applied language course for students not considering university as a post-secondary option. Less emphasis is placed on literature and its analysis. The main focus is developing good language and communication skills.

### English 122

*Prerequisite:* English 112 or 111

*Recommended Mark:* 65%

*Description:* This course focusses on more academic language practices and is required for university acceptance. Students enhance listening, speaking, reading, and writing skills. Students respond to a variety texts with higher academic complexity, including some text of literary merit. Students will respond through a variety of ways of representation, including some literary analysis.

### English 121

*Prerequisite:* English 111

*Recommended Mark:* 75%

*Description:* English 121 is an enriched English course, which builds upon the requirements of the English 122 college preparatory course. It has more focus on literature with particular attention being paid to close reading of texts, academic writing and an overview of the historical philosophical, social and other contexts, which influence literary development.

### English 121 and AP English Language

*Prerequisite:* AP Seminar

*Recommended Mark:* 75%

*Description:* Students opting for AP English 121 will obtain two grade 12 credits in English, one for 121 and one for the second semester portion of the course. The two halves of the course are intended to provide the equivalent of a first year university course in English Language and Literature. An essential element of the course is preparation for the AP exams. Two are written in English: English Language and Composition; English Literature and Composition. Success on AP exams can lead to advanced standing (a first year credit in English) at most universities in Canada, United States and at many other institutions around the world.

## Elective Courses

Students with specific interest in this area can also select from the following options in Grades 11 & 12.

### Canadian Literature 120

*Prerequisite:* English 111 or 112

*Description:* Canadian Literature 120 involves a study of Canadian plays, poetry, short stories and novels. An emphasis is placed on how the literature of the nineteenth, twentieth and twenty first centuries reflects Canadian identity and how it is unique in world literature.

### Media Studies 120

*Description:* This is a hands-on course in the media. It will deal with film, television, advertising and video. The course will cover the characteristics and techniques of each medium and will involve extensive practical work in such areas as the making of videos and commercials. Although it is a hands-on course, students are expected to do a substantial amount of reading and writing dealing with the theory related to the various media. Priority will be given to grade 12 students.

### Theatre Arts 120

*Prerequisite:* English 10

*Description:* This course deals with the major aspects of theatre performance, including acting, interpretation, stage craft, play management, & theatre history. The course offers the opportunity to deal with both practical and theoretical issues as they relate to drama and theatre.

### Journalism 120

*Prerequisite:* English 10

*Description:* Journalism 120 provides students with intensive practice in writing and editing. Students learn to identify or generate story ideas, to gather pertinent information and to write and edit their stories with a view to publication. The activities accompanying preparation for publication engage students in creative skills such as writing, design, layout and photography, and in practical skills such as budgeting, meeting deadlines and working with others. Examining examples of journalistic style is an element of the course but writing for publication is the focus.



# MATHEMATICS

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## Graduation Requirements

All students are required to obtain 1 grade 11 credit in Mathematics. Students planning to go to university or to study certain community college programs must select additional courses. Students should seek advice from the Guidance Department with regard to entrance requirements for specific programs.

## Required Courses Grade 10

All Grade 10 Math courses are semester-long.

All Students must select both of the following courses unless they are opting for the AP Math pathway (pg 5)

### Geometry, Measurement and Finance 10

*Prerequisite: Math 9*

*Description:* Using algebra, spatial reasoning and problem-solving strategies students explore a variety of topics related to financial mathematics and mathematics of shape and space. Unit pricing, currency exchange, income and credit options are explored in relation to student experience. The Pythagorean theorem, primary trigonometric ratios, and an understanding of angles and parallel and perpendicular lines are used to solve problems. Both the metric and imperial systems of measurement are used to explore the geometry of 2D and 3D shapes.

### Number, Relations and Functions 10

*Prerequisite: Math 9*

*Description:* This course lays the foundation for further work with algebra, relations and functions. The concepts and skills around factoring, square and cube roots, irrational numbers, powers, and the multiplication of polynomial expressions are explored and practiced. The relationships between numbers in data and graphical form are interpreted and explained with reference to concrete situations. Linear relationships are explored in detail – slope, ways to represent linear relationships, characteristics when graphed, algebraic and functional notation, calculations of distance and midpoint, and methods of solving systems of equations.

## Required Courses Grade 11

All Grade 11 Math courses are semester-long. All students must select one of the following:

### Financial and Workplace Mathematics 110

*Prerequisite: GMF 10 and NRF 10*

*Description:* This course is the first of two courses in the Financial and Workplace pathway designed for entry into post-secondary trades and technical programs, or for direct entry into the work force. Concepts of right triangles, trigonometry, and angles of elevation and depression are applied to contextual problems. Scale models and drawings of 2-D and 3-D objects are constructed from various views and perspectives. Students are challenged to solve problems that involve numerical reasoning. Costs and benefits of renting, leasing and buying are explored, investment portfolios analyzed and personal budgets developed. Students manipulate and apply formulas in a variety of ways and solve problems using proportional reasoning and unit analysis.

### Foundations of Mathematics 110

*Prerequisite: GMF 10 and NRF 10*

*Description:* This course is a pre-requisite for a second **Foundations of Mathematics 120** which provides a pathway designed for entry into academic programs not requiring pre-calculus. It is also a pre-requisite for the pre-calculus pathway. Students develop spatial sense and proportional reasoning through problems that involve rates, scale diagrams and relationships among similar 2-D and 3-D shapes and objects. Students develop logical reasoning skills and apply this to proofs and problems involving angles and triangles, the sine law and the cosine law. Students model and solve problems involving systems of linear inequality in two variables and explore characteristics of quadratic functions. Costs and benefits of renting, leasing and buying are explored and investment portfolios are analyzed.



# MATHEMATICS

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## Elective Courses

Students having a specific interest in mathematics or those seeking to fulfill entrance requirements for post-secondary study can also select from the following courses:

### **Pre-Calculus 110**

*Prerequisite: Foundations of Mathematics 110*

*Recommended Mark: 75%*

*Description:* Students demonstrate an understanding of absolute value of real numbers, and solve problems that involve radicals, radical expressions, and radical equations. Students determine equivalent forms, simplify rational expressions, and solve problems that involve rational equations. They develop an understanding of angles in standard position and solve problems for these angles using the primary trigonometric ratios. Polynomial expressions are factored and absolute value functions and quadratic functions are analyzed and graphed. Students solve problems that involve quadratic equations and solve, algebraically and graphically, problems that involve systems of linear-quadratic and quadratic-quadratic equations in two variables. They also solve problems that involve linear and quadratic inequalities in two variables, and quadratic inequalities in one variable.

### **Pre-Calculus A 120**

*Prerequisite: Pre-Calculus 110*

*Recommended Mark: 75%*

*Description:* This course follows **Pre-Calculus 110** and precedes **Pre-Calculus B 120**. Students demonstrate and apply an understanding of the effects of horizontal and vertical translations, horizontal and vertical stretches, and reflections on graphs of functions and their related equations. They are introduced to inverses of functions, logarithms, and the product, quotient and power laws of logarithms and use these laws and the relationship between logarithmic and exponential functions to solve problems. Students are introduced to angles in standard position, expressed in degrees and radians, and to the unit circle. The six trigonometric ratios, and the sine, cosine and tangent functions are used to solve problems. First and second degree trigonometric equations are solved algebraically and graphically with the domain expressed in degrees and radians. Trigonometric identities are proven using reciprocal, quotient, Pythagorean, sum or difference, and double-angle identities.

### **Pre-Calculus B 120**

*Prerequisite: Pre-Calculus A 120*

*Recommended Mark: 75%*

*Description:* This course follows **Pre-Calculus A 120** and precedes **Calculus 120**. Students analyze arithmetic and geometric sequences and series to solve problems. They learn to factor polynomials of degree greater than 2, and to graph and analyze polynomial functions. They also graph and analyze radical, reciprocal and rational functions, building a function toolkit. Students are introduced to the concept of limits and determine the limit of a function at a point both graphically and analytically. They explore and analyze left and right hand limits as  $x$  approaches a certain value using correct notation, analyze the continuity of a function and explore limits which involve infinity.

### **Foundations of Mathematics 120**

*Prerequisite: Foundations of Mathematics 110*

*Description:* This is the second of two courses in the Foundations of Mathematics pathway designed for entry into post-secondary academic programs not requiring pre-calculus. In statistics, students are introduced to normal curves, and learn to interpret statistical data, using confidence intervals, confidence levels, and margins of error. To develop logical reasoning students analyze puzzles and games, and solve problems that involve application of set theory and conditional statements. The validity of odds and probability statements are assessed and problems are solved that involve probability of two events, the fundamental counting principle, permutations, and combinations. The binomial theorem is used to expand powers of a binomial. Data is represented using polynomial functions, exponential and logarithmic functions and sinusoidal functions to solve problems.

### **Introduction to Data Analytics 110**

*Prerequisite: Numbers, Relations, Functions 10 or Foundations of Mathematics 110*

*Description:* Students are growing up in a data centered society. Data is being generated, and collected, at a rate that we have never before experienced. Intro to Data Analytics aims to develop student's analytical skills through the use of statistical concepts and technology in order to effectively represent analyze data. Special emphasis will be placed on working with Big Data.

# Mathematics Department Course Offerings



## **Calculus 120**

*Prerequisite: Pre-Calculus B 120*

*Recommended Mark: 75%*

*Description:* This is the last course offered in the Pre-Calculus Pathway, and follows **Pre-Calculus B 120**. This course develops the concepts of average and instantaneous rates of change. Derivatives are determined by applying the definition of a derivative and the derivative rules including the Chain Rule, and are determined for trigonometric functions. Limits and derivatives of exponential and logarithmic functions are found. Calculus techniques are used to sketch graphs of functions, and to solve optimization problems. Problems are solved involving inverse trigonometric functions, involving related rates and involving the application of the integral of a function from a variety of fields. The definite integral and the antiderivative of a function are determined.

## **Calculus 120 AP**

*Prerequisite: Pre-Calculus 110, 120A & 120B*

*Description:* This is a full-year course 2-credit course. Semester 1 topics include functions, limits, tangent and normal lines, derivatives, linear approximations, curve sketching, related rates, applied extrema problems, and other derivative applications. Semester 2 topics include slope fields, differential equations, integrals, area between curves, volumes of solids, and other integration applications.

### Current Mathematics Pathways

	AP	Post-Secondary Pathways		Minimum Graduation Requirement
		Science, Engineering, and Business (Pre-Calculus)	Most other university and college programs (Foundations)	
Grade 10	<ul style="list-style-type: none"> <li>Geometry Measurement and Finance 10</li> <li>Numbers Relations and Functions 10</li> <li>Foundations 110</li> </ul>	<ul style="list-style-type: none"> <li>Geometry Measurement and Finance 10</li> <li>Numbers Relations and Functions 10</li> </ul>	<ul style="list-style-type: none"> <li>Geometry Measurement and Finance 10</li> <li>Numbers Relations and Functions 10</li> </ul>	<ul style="list-style-type: none"> <li>Geometry Measurement and Finance 10</li> <li>Numbers Relations and Functions 10</li> </ul>
Grade 11	<ul style="list-style-type: none"> <li>Pre Calc 110</li> <li>Pre Calc A120</li> <li>Pre Calc B120</li> </ul>	<ul style="list-style-type: none"> <li>Foundations 110</li> <li>Pre Calc 110</li> </ul>	<ul style="list-style-type: none"> <li>Foundations 110</li> <li>Pre Calc 110 (elective)</li> </ul>	<ul style="list-style-type: none"> <li>Financial and Workplace 110</li> </ul>
Grade 12	<ul style="list-style-type: none"> <li>AP Calculus 120</li> </ul>	<ul style="list-style-type: none"> <li>Pre Calc A 120</li> <li>Pre Calc B 120</li> <li>Calculus 120 (elective)</li> </ul>	<ul style="list-style-type: none"> <li>Foundations 120 (elective)</li> </ul>	<ul style="list-style-type: none"> <li>Financial and Workplace 120 (elective)</li> </ul>



# SCIENCE

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## Graduation Requirements

All students are required to obtain 1 credit in Science. Students may choose from the following courses:

- Physics 11
- Biology 11
- Chemistry 11
- Environmental Science 12
- Human Physiology 110
- Robotics 120 OR Electronics 110 (See page 21)
- Physical Geography 110 (See page 16)

## Science Courses

All Science courses are semester-long. Students having a specific interest in Science or those seeking to fulfill entrance requirements for post-secondary study can also select additional courses. Students may select from the following courses:

### Human Physiology 110

*Prerequisite:* Science 10

*Description:* This course is designed to appeal to a wide range of learners including students for whom this will serve to fulfill their science graduation requirement and students who will take additional science courses. A study of Human Physiology will be relevant to every student, providing them with the tools they will need to make informed choices about their own health and that of others. Human Physiology focuses on the biology and healthy functions of all of the major human body systems and how wellness can be compromised by struggles with mental and social health, lifestyle choices and disorders.

### Biology 112 / F.I. Biology 112

*Prerequisite:* Science 10

*Recommended Mark:* 65%

*Description:* In Biology 112 students study the cell as the basic unit of life, the diversity of organisms that make up the world's ecosystems, and several systems that allow multi-cellular organisms to maintain equilibrium with the outside environment. Through the lecture and lab components of this course the goal is to make students more aware of the tremendous impact of biology and technology upon society.

### Biology 111

*Prerequisite:* Science 10

*Recommended Mark:* 75%

*Description:* The Biology 111 curriculum is the same as the Biology 112 curriculum but the course is enriched which requires an increased depth of understanding and a greater development of investigative techniques rather than an increase in factual knowledge.

### Chemistry 112

*Prerequisite:* Science 10

*Recommended Mark:* 65%

*Description:* In Chemistry 112 students begin with a quick review of atomic theory and the periodic table of the elements, and then will go on to cover compounds, chemical reactions, the mole, gas laws, stoichiometry, and an introduction to chemical bonding. This course has a large lab component, which will familiarize students with lab safety, lab apparatus and a variety of laboratory techniques.

### Chemistry 111

*Prerequisite:* Science 10

*Recommended Mark:* 75%

*Description:* The Chemistry 111 curriculum is the same as the Chemistry 112 curriculum but the course is enriched which requires an increased depth of understanding and a greater development of investigative techniques rather than an increase in factual knowledge.

### Physics 112

*Prerequisite:* Science 10

*Recommended Mark:* 65%

*Description:* Through lecture and lab components an introduction to Mechanics, Momentum, Energy and Waves will be explored. Describing the motion of objects requires understanding of position, displacement, velocity, and acceleration and the connection between them.

### Physics 111

*Prerequisite:* Math and Science 10

*Recommended Mark:* 75%

*Description:* The Physics 111 curriculum is the same as the Physics 112 curriculum but the topics of Kinematics, Dynamics, Energy and Waves will be explored in greater detail and require increased independent thinking and investigation. Students will be expected to have a strong mathematical background.

### Environmental Science 120

*Prerequisite:* Science 10

*Description:* Environmental Science is a one semester course. The major topics covered will deal with the structure of the environment, attitude towards the environment, the ecosystem concept, natural resources, population, sustainable development and current environmental issues. The course includes lectures, demonstrations, laboratory work, and field trips.



## SCIENCE

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### Psychology 120

*Prerequisite:* Chemistry 11/ Biology 11: Recommended mark of 75% or higher.

*Description:* Psychology 120 is a life-orientated course designed to give students the factual foundation in techniques, the vocabulary of psychology and a general understanding of human behaviour. This is a survey course which addresses the history of psychology, research methods and the application of psychology in the areas of biology, sensation/perception, consciousness, learning, memory, cognition, motivation/emotion, development, and psychological disorders.

### Science 122

*Prerequisite:* Introduction to Electronics 110 or Chemistry 12 or Physics 12

*Description:* Curious about Electricity, Magnetism & Electrochemistry? Love engineering and working in an inquiry-based hands-on setting? This class will include study and application of electricity, magnetism, electromagnetism, electrochemistry and other engaging engineering challenges.

### Biology 122

*Prerequisite:* Biology 112

*Recommended Mark:* 65%

*Description:* In Biology 122, students focus on Biology at the molecular level. They study how organisms grow and pass along characteristics to future generations, and how this impacts living things at the species and population level. Additional systems are also studied that allow multi-cellular organisms to maintain equilibrium internally and with their environment. There is more emphasis placed on the study of biochemistry and the goal is to make students more aware of the tremendous impact of biology and technology upon society.

### Biology 121

*Prerequisite:* Bio 111

*Recommended Mark:* 75%

*Description:* The Biology 121 curriculum is the same as the Biology 122 curriculum but is enriched which requires an increased depth of understanding and a greater development of investigative techniques rather than an increase in factual knowledge.

### Chemistry 122

*Prerequisite:* Chemistry 112

*Recommended Mark:* 65%

*Description:* This is the second chemistry course in which science oriented students should enroll. In this course the following sections will be covered: organic chemistry, thermal chemistry, chemical equilibrium, kinetics, acids and bases. The labs associated with this program will be considerably more challenging as students will be involved in the preparation and setting up of the labs. In addition there are substantial theoretical and mathematical components to this course, so students require a strong mathematics background to complete this course.

### Chemistry 121

*Prerequisite:* Chem 111

*Recommended Mark:* 75%

*Description:* The Chemistry 121 course is enriched with further lab work. The labs associated with this program will be considerably more challenging as students will be involved in the preparation and setting up of the labs.

### Physics 122

*Prerequisite:* Physics 112

*Recommended Mark:* 65%

*Description:* In Physics 122 students extend the study of mechanics from Physics 11 to include two dimensional motion. This extension requires a substantial mathematical component including a solid understanding of trigonometry and quadratics. The course will include the extension of dynamics to two dimensions, projectile motion, simple harmonic motion, universal gravitation and fields (electrical, magnetic, gravitation).  
\* Both Physics 122 and 121 will provide a level of preparation for students entering post-secondary institutions specializing in engineering or science.

### Physics 121

*Prerequisite:* Phys 111

*Recommended Mark:* 75%

*Description:* The enrichment of Physics 121 will include a deeper understanding and investigation into the concepts of dynamics in two dimensions, projectile motion, simple harmonic motion, universal gravitation and fields (electrical, magnetic, gravitation).

### Biology 120AP

*Prerequisite:* Biology 121AP

*Recommended Mark:* 75%

*Description:* AP Courses are designed to be equivalent to a two semester college introductory science course. These classes are conducted at the college level and students are expected to work accordingly. AP Science courses differ significantly from a traditional high school science course due to the content, depth of material covered, lab work, and time and effort required to achieve mastery in this subject area. Upon completion of Biology 120AP, Chemistry 120AP or Physics 120AP students have the option of writing the Advanced Placement exam in May.

### Chemistry 120AP

*Prerequisite:* Chemistry 121AP

*Recommended Mark:* 75%

### Physics 120AP

*Prerequisite:* Physics 121AP

*Recommended Mark:* 75%



## HUMANITIES

Contact: Mrs. Jennifer Mabey  
Jennifer.Mabey@nbed.nb.ca

### Graduation Requirements

All students are required to obtain 1 credit in Modern History. Students planning to go to university or to study certain community college programs must select courses ending in either 1 or 2. Students should seek advice from the Guidance Department with regard to entrance requirements for specific programs.

### Required Courses

All Humanities courses are semester-long. Students must select one of the following Modern History Options:

#### Modern History 113

*Prerequisite:* Social Studies 10

*Recommended Mark:* 60%

*Description:* Modern History 113 is designed to provide an understanding of the main events of the twentieth century, as well as some familiarity with basic skills used to interpret historical accounts. A survey approach is given to the following topics: Basic World Geography, Industrialization, Life in the 1920's and 30's, World War I, World War II, and the Cold War.

#### Modern History 112

*Prerequisite:* Social Studies 10

*Recommended Mark:* 65%

*Description:* Modern History 112 is a rigorous study of the evolution of the peoples of the West during the nineteenth and twentieth centuries and their widening involvements in global issues. The course describes the rise of nationalist and socialist movements, the international connections growing out of the World Wars and the Cold War era, and the widening global contacts of the contemporary world.

#### Modern History 111/ F.I. Modern History 111

*Prerequisite:* Social Studies 10

*Recommended Mark:* 75%

*Description:* Modern History 111 is an enriched, in-depth thematic study of Modern European History, examining the following revolutions: the Liberal Revolutions of 1848, the French Revolution, the Industrial Revolution, the Communist Revolution, and the National Socialist Revolution.

### AP History Option

Students interested in AP must register for Modern History 111 and European History 120 AP.

#### European History 120AP

*Prerequisite:* Modern History 111

*Recommended Mark:* 75%

*Description:* The current AP program in European history corresponds to the most recent developments in history curricula at the undergraduate level. Students are expected to demonstrate knowledge of basic chronology and of major events and trends from approximately 1450 to the present, that is, from the High Renaissance to the very recent past. In addition to providing a basic narrative of events and movements, the goals of the AP program in European history are to develop (a) an understanding of some of the principal themes in modern European history, (b) an ability to analyze historical evidence, and (c) an ability to analyze and to express an historical understanding in writing.



## HUMANITIES

Contact: Mrs. Jennifer Mabey  
Jennifer.Mabey@nbed.nb.ca

### Elective Courses

Students having a specific interest in the Humanities can also select from the following options:

#### Physical Geography 110

*Prerequisite:* Science or Social Studies 10

*Description:* Students undertake the study of the physical features of the earth and their effects on mankind. It examines the interaction among all components of the environment and emphasizes the relationship between the land and humanity. It examines climatology and meteorology and their impact on people. It is designed to develop an understanding of the basic principles of the geographic method.

#### Canadian Geography 120

*Prerequisite:* Physical Geography 110

*Description:* Canadian Geography 120 is a study of the ever changing cultural and physical landscapes of Canada and the interaction of the two. It examines physical systems and inter-relates these with man-made structures and systems. It involves environmental issues, which are currently pertinent to the lives of Canadians. Geographic understandings and skills are integrated throughout the course.

#### Hospitality and Tourism 110

*Description:* This course will provide students with lifelong learning skills that are transferable to future learning and/or the hospitality and tourism industry. The student will obtain career information skill development and talents for employment. This course relies on resources based learning, practical experiences, access to resources people and information that will help the individual in his/her career choice. Topics include the eight main sectors of the tourism industry, influences on the tourism industry, personal and interpersonal skills regarding career opportunities available, travel industry and marketing strategies.

#### Law 120

*Description:* Law is designed to give students knowledge of the law, the courts' changing trends, and the major changes the constitution has brought about. Origins of the Canadian legal system, criminal law, civil and human rights, torts/civil law, and contracts will be covered using case studies.

#### Sociology 120

*Description:* Sociology is the study of human group behavior. Topics covered include the nature of sociological analysis and its relationship with psychology, culture, personality formation, class structure, deviance and crime. Students will be given the opportunity to examine Canadian profiles and statistics and to experiment with different sociological methods inside and outside the classroom. A major term paper is required.

#### World Issues 120

*Prerequisite:* Social Studies 10

*Recommended Mark:* 60%

*Description:* World Issues 120 examines various issues that are global in nature and that require a global solution. The concept of the global village is studied as is the relationship between nations as players in the global community. Various issues are examined to acknowledge the fact that events in any part of the World have a reverberating effect. The future of the global community is also examined.

#### Canadian History 121 / F.I. Canadian History 121

*Prerequisite:* Modern History 111

*Recommended Mark:* 75%

*Description:* Canadian History 121 is a thematic study of Canada over approximately the last century. Themes examined include: constitutional (dilemma or identity), social (ethnic clash) and economic (economic nationalism versus economic internationalism).

#### Canadian History 122 / F.I. Canadian History 122

*Prerequisite:* Modern History 112

*Description:* Canadian History 122 is a study of Post-Confederation with an emphasis on the 20<sup>th</sup> century. The curriculum is organized by outcomes in four units: MacDonald Era, Expansion and Consolidation, Canada's Century Begins, New Challenges and New Ideas, Canada and the Global Community. There is emphasis on a selection of themes including English-French relations, First Nations, Continentalism, Regionalism, Canadian Identity and social themes which lead into the Post-Confederation study.

#### Political Science 120

*Description:* Political Science 120 is an introductory political science course designed to develop an understanding of various political ideologies and systems, as well as the ability to assess the merits of each and to make comparisons Contemporary political issues are also examined.

#### Economics 120

*Description:* Economics 120 provides a basic understanding of our economic system and how it works. The role of Canada's major economic institutions and how they interact is examined. It is designed to develop an understanding of the concepts and techniques needed for making economic decisions and to develop an awareness of the major economic problems and issues of the day.



## FRENCH IMMERSION & LANGUAGES

SPR: Mr. Stephane Dupont  
Stephane.Dupont@nbed.nb.ca

### French Immersion Graduation Requirements

All students are required to obtain 4 credits in French Immersion Subjects. All students must take a F.I. Language Arts 11 course (1 credit), a F.I. Language Arts 12 course (1 credit) and 2 additional courses in French Immersion. Additional course offerings include:

- |  |                                |
|--|--------------------------------|
| ○ F.I. Modern History 111              | ○ F.I. Biology 112             |
| ○ F.I. Techniques de Communication 120 | ○ F.I. Writing 110             |
| ○ F.I. Family Dynamics 120             | ○ F.I. Foundations of Math 110 |

*Please note:* Not all French Immersion Courses are offered every year and are dependent on student interest. Students should seek advice from the Guidance Department with regard to entrance requirements for specific programs.

### Proficiencies and Certifications

- **Certificate of French Proficiency:** The requirements for this certificate are outlined in Policy 309. Students completing any grade 12 French course (FILA 120, PIF 120, Tech de Comm 120) are eligible to complete the French Proficiency exam administered by the Province of New Brunswick.
- **French Immersion Certificate:** Students who complete the grade 9/10 FI program and continue with F.I. Language Arts 11 and 12 plus an additional F.I. Credit Course are eligible for this certificate.
- **Post Intensive French Certificate:** Students who complete both PIF 110 and PIF 120 are eligible for this certificate.

### Required Courses

All French Immersion courses are semester-long. Students must complete both:

#### F.I. Language Arts 110

*Prerequisite:* F.I. Language Arts 10

*Description:* This course is a continuation of and follows the same general pattern as the grade 10 course. The content of this course is based on five components: oral expression, literature, grammar, composition, and culture.

#### F.I. Language Arts 120

*Prerequisite:* F.I. Language Arts 110

*Description:* This course emphasizes vocabulary building, writing and oral expression, literature, grammar and culture. All these aspects are examined in context using various resources, visual and auditory, a variety of contemporary written material, articles and novels from francophone regions. Emphasis is placed on oral proficiency and understanding; therefore, group work and communicative activities and projects are of great importance.

### Elective Courses in French

Students having a specific interest in French language might also like to consider:

#### F.I. Techniques de Communications 120

*Prerequisite:* FILA 110

*Description:* This course is designed to develop effective communication skills. It emphasizes the use of set-up phrases, idiomatic expressions, correct pronunciation and intonation, development of useful vocabulary, and ability to communicate without hesitation in a given situation. Students will be required to do oral presentations either individually or in pairs. An oral exam will be given at the end of the semester as part of the formal evaluation.

#### AP French Language and Culture 120

*Prerequisite:* F.I. Language Arts 120

*Description:* This course prepares students for the AP French exam which consists of five different components. Students will refine their skills in oral and written communication, reading comprehension, grammar and listening. AP students may elect to complete the AP French exam in May in order to gain credit at post-secondary institutions in North America.



## LANGUAGES

SPR: Mr. Stephane Dupont  
Stephane.Dupont@nbed.nb.ca

### Graduation Requirements

The French language requirement for Graduation in the Province of New Brunswick is satisfied by the completion of the French 9 and 10 courses. Any further study would prepare students to take the French Proficiency Certification at the completion of any French 12 course.

### Elective Courses

All Language Courses are semester-long. Students may select from the following:

*\*Note also that if a student achieves a level of Intermediate at the end of grade 10 Post Intensive French, they may select to enroll in French immersion courses (including online options) in addition to or in place of Post-Intensive French courses in grades 11 and 12.*

#### Post-Intensive French 110

*Prerequisite:* Post-Intensive French 10

*Description:* Post-Intensive French is a literacy-based, non-immersion program for students choosing to continue to learn French as a second Language. Themes at this level include: mysteries, injustices and the power of photography.

#### Post-Intensive French 120

*Prerequisite:* Post-Intensive French 110

*Description:* Post-Intensive French is a literacy-based, non-immersion program for students choosing to continue to learn French as a second Language. Themes at this level include: looking to the future, ecological challenges, similarities and differences and careers.

#### Spanish 110

*Prerequisite:* French 10

*Description:* This course serves as an introduction to Spanish language and culture. It emphasizes communication in order to foster growth of the following language skills: listening, speaking, reading and writing. This course encourages the use of the language to allow the students to express themselves in various situations and to increase their cultural knowledge in order to promote an appreciation of Spanish culture.

#### Spanish 120

*Prerequisite:* Spanish 110

*Description:* This course serves as an extension of Spanish language and culture learning. It emphasizes communication in order to further develop the following language skills: listening, speaking, reading and writing. This course encourages the use of the language to allow the students to express themselves in various situations and to increase their cultural knowledge in order to promote an appreciation of Spanish culture.

#### Mandarin 120

*Description:* This course serves as an introduction to Mandarin language and Chinese culture. It emphasizes communication in order to foster growth of the following language skills: listening, speaking, reading and writing. This course encourages the use of the language to allow the students to express themselves in various situations and to increase their cultural knowledge in order to promote an appreciation of Chinese culture.



# HEALTH & PHYSICAL EDUCATION

SPR: Ms. Carrie Shea  
Carrie.Shea@nbed.nb.ca

## Graduation Requirements

Students must obtain 1credit from the Fine Arts & Life Role Development cluster.

- Visual Art 110/120 (page 22)
- Outdoor Pursuits 110
- Music 11/12 (page 22)
- Entrepreneurship 110 (page 21)
- Graphic Art and Design 110 (page 22)
- Independent Family Dynamics 120
- Theatre Arts 120 (page 9)
- Wellness through Physical Education 110
- Health and Phys. Ed 120 (Leadership)
- Co-Op Education 120 (page 21)
- Reading Tutor 120 (page 9)

## Elective Courses

Students having an interest in Health and Physical Education may choose from the following courses:

### Wellness through Physical Education 110

*Prerequisite:* Health and Physical Education 10 or SPR Approval

*Description:* The goal of the Wellness through Physical Education Course is to promote healthy active living for life. The course is intended to encourage a broad-base exploration of a variety of activities, highlighting non-traditional approaches to fitness and wellness {e.g. yoga, hiking, ultimate frisbee, personal training, Tai Chi}. As a result this course will offer a range of learning experiences for students that encourage healthy active living, but are not sport specific

### Nutrition For Healthy Living 120

*Description:* Through research, the science of nutrition continues to expand. It is important to understand information provided and to make smart, healthy decisions. Nutrition for Healthy Living 120 is designed to make students aware of preventative strategies to contribute to overall wellness, make healthy food choices and maintain a balance between eating habits and physical activity. Current issues relating to chronic diseases, lifestyles and food technologies will also be discussed. Students will be encouraged to use reliable information to examine their eating habits and lifestyle choices.

### Independent Family Dynamics 120 (F.I. Option Available)

*Description:* Family Living 120 examines the Canadian family in its many forms and studies the issues that affect families during each stage of the Family Life Cycle. The overall aim of Family Living 120 is to provide students with the necessary knowledge, skills, and abilities to meet the challenges of our dynamic and complex society.

### Outdoor Pursuits 110 (Grade 12 ONLY)

*Prerequisite:* Health and Physical Education 10 or Wellness through Physical Education 110

*Note:* There is limited enrollment in this course therefore attendance is taken into consideration when choosing successful candidates.

*Description:* This course will develop personal outdoor recreation skills based on environmental ethics. Students must complete a series of out-trips that may be day-trips, overnight excursions or extended trips. This course will take advantage of local outdoor access and could include camping, hiking, canoeing and other adventure activities. Students must be prepared to lead and evaluate out-trip experiences from personal and group dynamics perspectives.

### Health and Physical Education 120 Leadership (Grade 12 ONLY)

*Prerequisite:* SPR Approval

*Description:* This course is designed for grade 12 students with special interest in utilizing physical activities to develop leadership skills, which will enable them to translate these interests into dynamic personal involvement in their community. This course requires a commitment to a minimum of 30 hours of out-of-class responsibilities in the area of leadership, which may focus on sport or recreational activities or other forms of community services. This course consists of units in leadership theory, sports administration, teaching theory, officiating, coaching, and sports medicine.



## Science, Technology, Engineering, Arts & Mathematics (STEAM)

SPR: Mrs. Jocelyn Wells  
Jocelyn.Wells@nbed.nb.ca

### Graduation Requirements

Students must obtain 1credit from the Fine Arts & Life Role Development cluster.

- |   |   |
|---|---|
| ○ Visual Art 110 and Visual Art 120 (page 22) | ○ Independent Family Dynamics 120 (page 19)     |
| ○ Outdoor Pursuits 110 (page 19)              | ○ Theatre Arts 120 (page 9)                     |
| ○ Music 11 and Music 12 (page 22)             | ○ Wellness and Phys Ed. 110 (page 19)           |
| ○ Entrepreneurship 110 (page 21)              | ○ Co-Op Education 120 (page 21)                 |
| ○ Graphic Art and Design 110 (page 22)        | ○ Health and Phys Ed 120 (Leadership) (page 19) |

### Proficiencies and Certifications

- **FIT Certification:** Provides students with technology and business/entrepreneurial skills and essential workplace skills. Qualifying Courses include: Information Technology 120, Entrepreneurship 110, Technical Support 110, Business Organization and Management 120, Digital Technologies and Computer Science 110.

### Computing Technology Courses

All Technology classes are semester-long.

#### Computer Aided Design 110

*Description:* This course is a skills based course designed to introduce students to the creation and interpretation of technical drawings used in manufacturing and electronics using computers aided design software. The obtained skills will provide a foundation for further studies in computer aided design in the related fields of automation, engineering, manufacturing or any of the skilled trades.

#### Computer Science 110

*Description:* This course is essentially a study of computer languages. Structured computer programming languages are used to design and implement programs that will solve problems on a computer. The obtained skills will provide a foundation for further studies in computer science or related fields.

#### Computer Science 120

*Description:* This course will provide an introduction to programming in JAVA. Structured computer programming languages are used to design and implement programs that will solve problems. This course provides a foundation for further studies in computer science or engineering.

#### Information Technology 120

*Description:* General technical competencies introduce students to the full range of ICT work and how it supports/facilitates all types of organizations in achieving their goal.

#### Computer Aided Design & Graphics 120

*Prerequisite:* Computer Aided Design 110

*Description:* This course is a skills based course designed to introduce students to the creation and interpretation of technical drawings used in architecture using computers aided design software. The obtained skills will provide a foundation for further studies in computer aided design in the related fields of architecture, civil engineering, construction or any of the skilled trades.

#### Tech Support 110

*Description:* PC Hardware and Software curriculum provides an introduction to the computer hardware and software skills needed to help meet the growing demand for entry-level information and communication technology (ICT) professionals. The curriculum covers the fundamentals of PC technology, networking, and security, and also provides an introduction to advanced concepts.

#### Digital Production 120

*Description:* Digital Production 120 is a skills-based course designed for self-paced interactive learning. Students will study Web development, digital imaging, digital animation and digital audio. The skills that are developed will allow students to build complex Web and multimedia productions.



## STEAM

### Business Courses

#### Introduction to Accounting 120

*Prerequisite:* Any Math 11 course

*Description:* The course includes the development and use of journals, ledgers, and related books of accounts as well as a computer accounting package. Basic accounting principles and concepts are discussed at some length to help students understand the conceptual framework of accounting. The preparation and use of the financial statements of proprietorships, partnerships and corporations are studied in some detail.

#### Entrepreneurship 110

*Description:* Entrepreneurship 110 is designed to help the student learn about the skills, abilities, and personal characteristics that are needed to become a successful entrepreneur, as well as develop their individual aptitudes, attitudes and interests. The student will practice the techniques involved in accurately assessing opportunities, generating ideas, selecting and evaluating ideas, and preparing carefully drawn up plans for putting these into action. Entrepreneurship 110 emphasizes the development of concepts rather than specific business skills. Assessment is based on testing, written assignments, group work and oral presentations.

#### Business and Organization Management 120

*Description:* This course will allow students to work successfully for a small business by providing the students with skills in leadership, critical thinking, and problem solving. Canadian businesses with an emphasis on business within Atlantic Canada will be the focus.

#### Co-Op Education 120

*Description:* Co-operative Education is a two or three credit course. In addition to related theory and reflective learning classes, students will participate in work placements in the community. The purpose of this program is to provide students with exploratory experiences in a variety of work roles while also fostering personal responsibility, self-reliance, and teamwork.

#### Culinary Technology 110

This course is an introduction to the food service industry. Through participation in different experiences within a quantity food service, the student learns both to master skills through practice and to become familiar with the required qualities for employment. Topics include food preparation, safety precautions, time management, and the importance of serving nutritious and appetizing meals.

### Trade Technology Courses

#### Introduction to Applied Technology 110

*Description:* This is a course aimed at students who wish to explore career opportunities in trades and technology. Students will explore basic electrical and home maintenance, manufacturing, small gas engines, excavator simulation and occupational health and safety. There is limited enrollment and students will complete an application and an interview.

NOTE: Only offered in conjunction with Mill & Cabinet 120.

#### Robotics and Automated Technology 120

*Description:* This is a course aimed at students who wish to explore career opportunities in engineering and technical trades. Students will explore areas of pneumatics, pressures systems, automation and robotics. Students will also maintain and modify a robot which may be used in robotics competitions. Students should have an aptitude for mathematics and science and will be required to complete an application process.

#### Metals Processing 110

*Description:* This course is a study of standard machine shop processes used in the manufacture of metal products. Proper operating instruction will be given on a variety of machine tools and the development of basic skills. Students will apply theory as well as develop practical skills through the production of various projects.

#### Mill and Cabinet 120

*Co-requisite:* Introduction to Applied Technology 110

*Description:* This course will run in conjunction with Introduction to Applied Technology. Students will develop hands on skills in the field of cabinetry as well as studying theory behind various techniques involved with cabinetry, safety, fasteners, wood types, tool identification and use and careers.

#### Framing and Sheathing 110

*Description:* This course will provide students with skills and knowledge associated with framing-in or shell construction of typical single family dwellings. Skill and knowledge required to interpret drawings to construct floors, walls and roof systems will be gained.

#### Introduction to Electronics 110

*Description:* This course will introduce students to the skills and knowledge required to pursue post-secondary learning in electrical/electronics fields. This course is recognized as a Science credit towards graduation. The course presents basic theory and circuitry including components such as resistors, inductors, capacitors, transformers and diodes. This course will be of interest to students with a career objective at the technical or engineering levels of industry as well as those with a hobbyist interest.



### Fine Arts Courses

All Technology classes are semester-long.

#### Visual Arts 110

*Prerequisite:* Visual Arts 10

*Description:* Visual Arts 110 builds on the experience and knowledge gained in the 9/10 program. The studio work remains in the areas of drawing, painting, printmaking and 3-dimensional work and stresses personal expression and the development of individual imagery. There are further requirements in art criticism and art history. Students interested in this credit must have passed Grade 10 Art.

#### Graphic Art and Design 110

*Description:* Graphic design is the creative planning and presentation of visual communication to attract attention or communicate effectively. The course promotes the skills and knowledge that are necessary to understand and develop images, signs, symbols, logos, etc. that communicate a message or value. Graphic Design is an introduction to specialized training in critical thinking & creative visualization techniques while you learn skills such structure aesthetics and self-reliance.

#### Music 111/112

*Prerequisite:* Music 9 & 10

*Description:* The course consists of three major outcomes that require students to demonstrate achievement in performing music, in the application of theoretical and aural skills and concepts, and, in understanding music in an historical context. The course lists a series of performance indicators that will assist in determining the course level.

#### History of Popular Music 120

*Description:* The role of popular music has a great influence on all aspects of society. This course is designed for students to understand the music they listen to and the role it plays in society. To understand these concepts, it is necessary to study where the music came from, how it was created, and where popular music is going. This course does not require students to be able to perform any musical instruments, but have a willingness to listen and discuss various musical genres and artists.

#### Visual Arts 120

*Prerequisite:* Visual Arts 110

*Description:* Visual Arts 120 is designed for students who wish to pursue art related interests. Students work through an introductory review of skills and concepts and choose blocks that lead to advanced work on a particular medium. Students are required to critique, in writing, aspects of process and product. An opportunity to develop a portfolio for submission to an art college is also available.

#### Studio Art 120AP

*Prerequisite:* Visual Arts 120

*Description:* The Advanced Placement Studio Art course is for the highly motivated student who is seriously interested in the study of art at a college/university level. Students will develop a portfolio evaluated by the College Board according to their specifications. The AP student will work outside the classroom as well as in and beyond scheduled periods in order to accomplish his/her goals. Supplies and a fee (scholarship available upon need) for portfolio submission are needed for this class.

#### Music 122

*Prerequisite:* Music 111/112

*Description:* The Music 122 course is designed for the advanced and serious student of music who wishes to pursue the subject as an avocation or who may be interested in further studies at the post-secondary level. The course assumes an advanced level of musical literacy, good aural skills, a sound theoretical background, knowledge of historical styles and forms, an interest in improving upon and expanding their areas of musical knowledge and expertise. Students may enter Music 122 by passing Music 111 or 112 or by having private study equivalent to grade 6 practical and grade 2 theory offered by the Royal Conservatory of Music or equivalent.



# Alternative Options

## Graduation Requirements

- Students may take up to two Challenge for Credit courses and one Independent Study for graduation purposes.
- Students may, in special circumstances, wish to pursue to Distance Education Courses in order to obtain specific courses for post-secondary education.

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## Information and Online References

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### Independent Study

- Independent study may include;
  - A prescribed course in the province of New Brunswick as listed in the most current version of the High School Program of Studies.
  - A Topic or Theme that extends the curriculum of a prescribed course. (Submit school approved proposed courses to the department of education for review and coding)
  - A topic or theme chosen by the students including work that combined a number of disciplines.
- Further details can be found on the Department of Education Website
  - <http://www.gnb.ca> *SEARCH TERM: Independent Study*
- Interested Students should contact:
  - Mr. Brad Stevens or Mrs. Jennifer Craft by no later than:
    - June 1, 2017 for Semester 1 Courses
    - November 30, 2017 for Semester 2 Courses

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### Challenge For Credit

- Challenge for Credit is an opportunity to recognize prior learning and to acknowledge this through the granting of a credit(s). The opportunity to the challenge is consistent with a view of schooling that promotes and validates learning that takes place in a variety of circumstances including outside of school.
  - **Available to:** Any student currently enrolled in a New Brunswick high school, students who outside school have met all the learning, process, interpersonal, participation objectives or outcomes/ requirements of a course.
  - **Available in:** Any prescribed course in the New Brunswick public high school system in grades 11 and 12. Prescribed courses are listed in the most current version of the High School Program of Studies.
- Students apply in writing (with parents signature) to the principal prior to/or within two weeks of the beginning of a semester/year.

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### Distance Education

- New Brunswick's Distance Learning program emphasizes a facilitated learning approach. All courses are led by distance facilitators/teachers who answer questions and engage student learning by e-mail, chat room or web cam. The current slate of courses is constantly being improved and updated and new courses are also in development to expand the Distance Learning offering.
- Please consult the SPR for STEAM and the Guidance Department for more information.
- Please see the Distance Education Website for details and course offerings.
  - <http://www.gnb.ca> *SEARCH TERM: Distance Education*



## ***Graduation Requirements***

### **In the 20-credit system, students must:**

- meet the requirements of the prescribed common curriculum of the 9/10 program as outlined in the grades 9/10 Companion Document (completing Information Technology outcomes satisfies Computer Literacy requirements).
- obtain a literacy credential by achieving a successful rating on the Grade 9 English Language Proficiency Assessment or Reassessment.
- attain 17 of 20 credits (including compulsory credits) as outlined in the High School Program.
- accumulate a minimum of 5 credits at the grade 12 level.

### **There are 7 compulsory credits.**

#### ➤ **5 credits are obtained as follows:**

- *English grade 11 (2 credits);*
- *English grade 12 (1 credit);*
- *Foundations of Mathematics 110 OR Financial and Workplace Mathematics 110 (1 credit);*
- *Modern History grade 11 (1 credit)*

#### ➤ **1 credit must be in Science. Students can choose from;**

- *Physics,*
- *Biology,*
- *Chemistry,*
- *Environmental Science*
- *Robotics*
- *Electronics,*
- *Physical Geography*
- *Human Physiology*

#### ➤ **1 credit must be from the Fine Arts/Life Role Development Cluster. Students can choose from:**

- |                        |                                       |
|------------------------|---------------------------------------|
| ○ Visual Arts 110      | ○ Health and Phys. Ed (Leadership)120 |
| ○ Family Living 120    | ○ Graphic Arts and Design 110         |
| ○ Music 111/112        | ○ Entrepreneurship 110                |
| ○ Co-op Ed 120         | ○ Reading Tutor 120                   |
| ○ Outdoor Pursuits 110 | ○ Wellness and Phys Ed 110            |
| ○ Theatre Arts 120     |                                       |

#### ➤ **10 Additional credits.**

Graduation requirements for a student identified as being exceptional (as defined by the Education Act) may vary as documented in his/her Personal Learning Plan (PLP). Modification (MOD), and/or Individualization (IEP) must be indicated on the transcript. No such indication will appear on the diploma.



	<b>Grade 10</b>	<b>Grade 11</b>	<b>Grade 12</b>
<b>1</b>	<b>English ____</b>	<b>English ____</b>	<b>English ____</b>
<b>2</b>	<b>English ____</b>	<b>English ____</b>	
<b>3</b>	<b>GMF 10</b>		
<b>4</b>	<b>NRF 10</b>		
<b>5</b>	<b>Social Studies 10</b>		
<b>6</b>	<b>Post Intensive French 10</b>		
<b>7</b>			
<b>8</b>			
<b>9</b>			
<b>10</b>			
<b>ALT</b>			
<b>ALT</b>			



**Education Support Services - Guidance** See Mrs. Currie and Ms. Craft for advice and resources for course selection and career planning.



**Education Support Services - Resource** See Ms. Champion (SPR) for guidance on inclusive practices, modified and accommodated curriculum.



**Department Heads (SPRs)**  
See any of the subject specialist SPRs for guidance on course levels and difficulty.