**MIRAMICHI VALLEY HIGH SCHOOL**



**MIRAMICHI, NB**

**TELEPHONE: 627-4083**

**MINI-BROCHURE GUIDE**

**FOR COURSE SELECTION**

**2023-2024**

# GUIDANCE

**M. O’Donnell-** Students Last Names A-L

**P. Landry -**Students Last Names M-Z

**J. Dedam-**First Nations

# types of Courses

There are two types of courses: Compulsory and Elective. Compulsory courses are required for graduation. Elective courses are available to support your interests and future career plans.

# Course Levels

All course names include a three-digit number. The first two digits indicate the grade; the third digit indicates the level at which the course is offered. Level 1 – enriched university preparation; Level 2 – regular university, community college and private training institution preparation; Level 3 – non-technical community college, private training and business college preparation; Level 0 – not offered at another level and will vary in level of difficulty. Some qualify for university entrance and others do not.

# virtual learning

A number of courses are offered through the New Brunswick Virtual Learning Centre (NBVLC) and may be available to meet specific circumstances. Virtual Learning courses are offered on-line via the Internet and require a high degree of self-discipline and commitment to self-directed learning. For further information go to: <https://www2.gnb.ca/content/gnb/en/departments/education/k12/content/anglophone_sector/elearning/distance.html> or see your Guidance Counsellor. Courses in French Immersion are available as well.

# Award of Academic Excellence

This requires a student to have an average of 85% on the 10 credits they have taken in a single academic year. If a student is taking a level 1 or an AP course and achieves a mark of 85% or higher, one percent will be added to their average to a maximum of 3 percent. Grade 12 recipients of the Award of Academic Excellence will be identified at graduation. Recipients of the award in grades 9-11 will be recognized at a ceremony at the beginning of the next academic year.

# French Immersion Programs

To graduate as a French Immersion (FI) student recognized by the province of New Brunswick, students must take a required number of FI designated courses. Specifically, 50% of the course load in grade 9 and 10 must be FI designated. They must also take a minimum of 5 courses with an FI designation in grades 11 and 12.

Students who participate in the French Immersion program and complete French Immersion Language Arts (FILA) 11, FI Modern History 11, FILA 12 and FI World Issues 120 will receive a French Immersion Completion Certificate upon graduation.

# Course Changes

Students, with the help of parents, are encouraged to consider carefully their choices when selecting courses. Consideration should be given to the entry requirements of various post-secondary institutions as well as your career interests. To aid in this selection, teachers and guidance counsellors are prepared to help you to choose appropriate courses. Once all students have been scheduled, course changes are difficult to accommodate.

Requests for a course change due to a failure in June will be accommodated, if space allows, and if requested at that time. Requests for course change initiated once school opens in September must be submitted using a Guidance Request Form. These requests will be considered if supported by academic need, graduation requirements, post-secondary admission requirements and/or career direction providing there is available space in the course(s) requested.

# Graduation Requirements

In order to graduate, you must complete the Grade 9-10 program and pass 18 out of 20 credits in Grades 11-12. Five of these credits must be Grade 12 courses. Of the 18 credits, eight are compulsory courses that you must take. The remaining ten are elective credits. The pass mark for all courses is 60%. You must also pass the English Language Proficiency Assessment administered during Grade 9.

**\*Please note that students are now required to complete two mathematics credit to graduate (Number, Relations and Functions 10 AND one of Foundations of Mathematics 110 OR Financial and Workplace Mathematics 110 OR Financial and Workplace Mathematics 110 AND Financial and Workplace Mathematics 120). Please see the end of the booklet for further explanation regarding mathematics pathways.**

# Compulsory Courses

English 11 Literary Texts; English 11 Informational Texts **(2 Credits)**

Math 11 and one additional math **(2 credit)**

Science **(1 credit)** (see list of options below)

History 11 **(1 credit)**

Fine Arts & Life Role Development **(1 credit)** (see list of options below)

English 12 **(1 credit)**

**4 Grade 12 Level courses**

6 other courses at any level

**SCIENCE OPTIONS**

Biology 112/122

Chemistry 112/122

Human Physiology 110

Physics 112/122

Environmental Science 120

Physical Geography 110 (Not offered in 2023-2024 school year; course is retired.)

Automotive Electrical Systems 120

**FINE ART & LIFE ROLE OPTIONS**

Cooperative Education 120 (2 credits) Growth, Goals and Grit 120

Entrepreneurship 110 Culinary Technology 110/120

Individual and Family Dynamics 120 Fashion Technology and Design 110

Nutrition for Healthy Living 120 Automotive Electrical Systems 120

Graphic Art & Design 110 Internal Combustion Engines 110

PE Leadership 120 Power Train and Chassis 110

Outdoor Education 110 Tune-up and Emissions 120

Health & Wellness PE 110 Introduction to Applied Technology 110

Music 112, 120 Framing and Sheathing 110

Visual Arts 110, 120 Housing and Design 120

Dramatic Arts 110, 120 Residential Finish 120

Reading Tutor 120 Mill and Cabinet Work 120

Welding/Metals Fabrication 110 Electrical Wiring 110

Metals Processing 110/120

**GRADUATION REQUIREMENTS FOR THE CLASS OF 2026**

Students entering grade 10 in the fall of 2023 will follow the guidelines outlined in Policy 316B, indicating that graduates must:

* Have met learning requirements prescribed in Grade 9 curriculum
* Have completed compulsory credit-hours in Grades 10 through 12
* Have accumulated 100 credit-hours to apply for graduation
* Have developed a documented career-life plan

The minimum acceptable grade of 60% will remain in place; however, students will start to accumulate credit-hours beginning in grade 10.

**\*Please see the diagram at the back of the booklet outlining compulsory credits and clusters.**

### LANGUAGE ARTS AND LANGUAGES

#### English Language Arts Foundational 10/Extended 10

In grade 10, English Language Arts students are expected to listen, view, read, and discuss increasingly complex information and literary texts, representing a variety of voices, for enjoyment, learning and personal understanding, collaboratively and independently. With an emphasis on Canadian content, including works by Black, Indigenous and racialized people, students will be exposed to a wide variety of texts representing diverse voices and perspectives (e.g., LGBTQ2S+, neurodiversity, age, gender, ethnicity, culture, religion, and ability). Students show increasing sophistication in selecting specific strategies to meet their needs while interacting, reading, and representing. They understand the learning process and strategies that work for them when creating a variety of texts. A text is not just the written word—other examples include an oral story, a musical score, a piece of art, a mathematical equation, a dance, a chemical formula, a game, a network of linked web pages, an advertisement, a video, and an outfit. Lessons are designed to allow for differentiation and support, so all learners have access to equitable learning experiences.

#### English 112 Literary texts; English 112 informational texts

This is an academically orientated program concentrating on the novel, short stories drama, the formal essay, and poetry. A compulsory examination is written in this course. This course has now been divided into two courses.

#### English 113 Literary texts; English 113 informational texts

This is a general English program emphasizing reading development and basic writing skills. A compulsory examination is written in this course. This course has now been divided into two courses.

#### English 122

This is an academically orientated program concentrating on literature and writing skills. A compulsory examination is written in this course.

#### English 123

This is a general English program emphasizing reading development and basic writing skills. A compulsory examination is written in this course.

#### Dramatic Arts 110

Dramatic Arts 110 is a performance-based course designed to encourage students to develop their dramatic skills through exposure to a variety of challenges and opportunities that require creative and higher-order thinking skills. In this course, students will be required to work individually, independently, in small groups, and in larger ensembles. Projects and research activities are encouraged to be activity-based experiential learning.  Students will be exposed to a wide range of dramatic conventions and styles for the purpose of creating, analyzing, conducting research, and performing. Students may be required to work outside of the classroom (including individual/ensemble practice and studio rehearsal) as the manifestations of theatre activities are many and varied.  Students are also strongly encouraged to experience extracurricular and community-based opportunities.

\*Fine Arts/Life Role Development Option

#### Dramatic Arts 120

This is an elective course that deals with the major aspects of theatre performance including acting, stage craft, play management and theatre history. Students are required to perform in public and must be prepared to memorize. Dramatic Arts 120 expands on the skills acquired in Dramatic Arts 110.  While students are not required to take Dramatic Arts 110 as a pre-requisite it would be beneficial. In Dramatic Arts 120, students will be expected to have more involvement and ownership of their learning and subsequent assessment.

\*Fine Arts/Life Role Development Option

#### French Immersion Language Arts 1o

This is a required course for French Immersion students and is required to graduate from the French Immersion program. The objectives of this course are:

* To understand a variety of oral interactions according to the situation of communication.
* To produce an oral message according to the intention of communication.
* To interact according to the situation of social and academic communication.
* To understand a variety of texts.
* To produce texts according to the intention of communication and the target audience

#### French Immersion Language Arts 110/120

This is a required course for French Immersion students where the development of the four language skills will be treated under vocabulary and oral expression/comprehension, literature, grammar, written expression and culture. This is required to graduate from the French Immersion program.

#### Growth, Goals, and Grit 120

#### Goals, Growth, and Grit: Skills for Success 120 will provide students with skills in three main areas - positive and productive mindsets and behaviours, organizational patterns, as well as functional and critical literacy.

#### Within the broad learning expectations of the course, specific success skills, strategies, and practices will be explored. Students will be supported to apply and transfer these skills, strategies, and practices to other courses and real-life situations. Students will learn how these support postgraduate pursuits. This course has a significant volunteer component outside of school hours. \*Fine Arts/Life Role Development Option

\*This course will not be offered during the 2023-2024 school year.

#### Introductory Mi’kmaw 110

This is a beginner's level language course with an emphasis on conversational skills. Students will learn and practice language through conversations, games and written assignments. By the end of this course, students will have a general understanding of the nature and function of the Mi'kmaw language that will enable them to communicate using the language. Students will also develop an understanding and appreciation of the Mi'kmaw language as an expression of a distinctive culture.

#### Intermediate Mi’kmaw 110

This is an intermediate level language course with an emphasis on conversational skills. Students will learn and practice language through conversations, games and written assignments. By the end of this course, students will have a general understanding of the nature and function of the Mi'kmaw language that will enable them to communicate using the language. Students will also develop an understanding and appreciation of the Mi'kmaw language as an expression of a distinctive culture.

#### Journalism 120

This course is designed for students to develop communicative skills, to learn the principles of journalistic expression and the practice of both. Journalism is a creative process involving such skills as design, layout, creative writing and photography. Students learn to identify or generate story ideas, to gather information pertinent to the stories and to write and edit their stories.

#### Media Studies 120

This is a course that offers an introduction to the evolution and impact of mass media on the individual and society. The television/video unit is compulsory, accompanied by a choice of three additional units on advertising, film, print and electronic journalism.

The primary purpose of the course is to have students learn through experiment and exploration; the course is practical, and activity based. Students enrolled in Media Studies 120 must be mature enough to meet the high level of independence, reliability and responsibility required of them.

#### Post Intensive French 10

#### Post-Intensive French encourages authentic communication in French. The objective is to create a literacy experience for students and contribute to developing their ability to use language and images, in rich and varied forms to read, write, listen, speak, view, represent and think critically about ideas in their second language.

#### Post Intensive French 110

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.

\**Note also that if a student achieves a level of Intermediate at the end of grade 10, he or she 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 120

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. \**Note also that if a student achieves a level of Intermediate at the end of grade 10, he or she 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.*

#### Reading Tutor 120

Rationale:  This course has been established for the purpose of providing assistance in achieving an acceptable standard of literacy for struggling readers and/or enabling speakers of other languages to improve their speaking, listening, reading, and writing skills in English.

Process:  Grade 11/12 MVHS tutors are introduced to various techniques to assist struggling readers and students of other languages.  Tutors are also immersed in the techniques of teaching.  A variety of pertinent topics is explored, including how students learn, how comprehension is enhanced through experience, how learners have different styles, and how to teach and evaluate writing. \*Fine Arts/Life Role Development Option

#### Writing 110

This is a course in developing writing skills through practice and workshop techniques with other students. It is designed for both the creative writers and for those who demonstrate a definite proficiency in the writing process. Much time is spent writing in class and focusing on using peer editors to encourage and guide “works in progress”.

### HUMANITIES

#### Civics 10

By the end of this course, students will be able to articulate personal rights and responsibilities and interplay among authority systems, citizens, and public policy. They will be able to express their understandings of various ideologies and forms of power as well as how those are operationalized and lived out in governments, civil society organizations, and the lives of individuals. They will be able to articulate the origins, functions, and sources of government power and how the roles played by individuals and groups is critical to informed citizenship and decision-making. This course pairs classroom learning with experiential learning opportunities so that students can use their civic skills to engage with issues that impact them and their communities. Students will be able to exercise their civic agency within the four domains of civic engagement (Peck & Sears, 2019) and explore the benefits and limits of power and governance. students will be able to articulate and act on personal rights and responsibilities and the interplay among authority systems, citizens, and public policy.

#### ANCIENT AND MEDIEVAL HISTORY 110

Ancient and medieval histories have an influence on popular culture, public discourse, and academic curricula. The roots of the present lie deep in the past. An understanding of ancient and medieval societies will not only give students the ability to think critically about that influence and about many other issues but also foster the development of historical thinking. Thinking about how we are different from past societies and how we continue to ponder many of the same questions helps us to understand the human condition more broadly. What has changed, and what has stayed the same? Does change always mean progress? Students should have opportunities to examine ancient societies to understand what happened in the past and what characteristics have endured. Ancient and medieval societies have rich primary source traditions, which allows students to grapple with a variety of types of evidence. From Egyptian hieroglyphics to the Roman Colosseum and from the archaeological evidence for everyday life around the world to oral traditions that have been passed down over thousands of years, ancient and medieval histories provide students great opportunities to consider how we know what we think we know and why certain interpretations carry more weight than others. These interpretive skills are readily transferrable to a variety of activities and careers.

\*Please note that this course will not be an available option until fall of 2024.

#### Canadian History 122

This is an academic course of Canadian studies concentrating on the development of Canada since Confederation. This is a university recognized credit.

#### Canadian Geography 120

This course is designed to provide an examination of the basic patterns of Canadian Geography, both physical and cultural. Students are encouraged to look for these patterns and relationships in order to develop an understanding of geographical concepts - like that of a region. This is a university accepted course.

#### French Immersion Modern History 112

This is a French Immersion course for students taking Modern History. This is required to graduate from the French Immersion program.

#### French Immersion World Issues 120

This course 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. Accent will be placed on a project/research-based approach in French. Pre-requisite French Immersion Modern History 112 or equivalent.

#### indigenous Studies 120

This course is designed to promote understanding of the Mi’kmaq and Maliseet perspectives on life in the Maritime Provinces. Using the text Maritime Native Studies, students will learn about language and culture, religion and spirituality, ancient times, arts and crafts, the land and the Mi’kmaqs of the Miramichi region. This course offers a good look at the culture and lifestyle of the original Canadians. This course is open to all interested students. This is a university recognized credit.

#### Law 120

This is an academic course that is sometimes accepted for university entrance. It is taught as a university preparatory course. This course is designed to help students become more aware and appreciative of the law and how it applies to them. Students are expected to read, and study related legal materials.

#### Modern History 112

This is a compulsory course for academically orientated students dealing with the historical development of modem Europe since Napoleon and the French Revolution.

#### Modern History 113

This is a compulsory general history course dealing with events of the twentieth century.

#### North Shore Legacy 120

Students will be given an in-depth experience of the exploits of the North Shore Regiment during the Second World War. Pre and Post war topics as they relate to the Regiment and the North Shore region will be analyzed as well. The course will give students experience in working with primary documents and developing their skills as historians by allowing them firsthand opportunities to conduct research, historical investigations, and international collaborative work. Students will learn the benefits of these skillsets and their contributions to our community’s legacy, but also to themselves as lifelong learning adults.

 Historical content of the course will help complement students’ exploration of themes related to remembrance and commemoration. Students will experience different ways society engages in remembrance and commemoration. The course will have unique opportunities to conduct research and commemoration work that will contribute to current work in the field at the local and international level. Final assessment in the course will be based on student project proposals related to the course material and themes.

#### Political Science 120

This 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 (particularly with respect to the Canadian system). This is a university recognized credit.

#### World Issues 120

This is an academic course that is sometimes accepted for university entrance. This course explores the idea that the world has become a global community with major obstacles to overcome. Students will compare the rich northern nations with the poor southern countries; study environmental problems; explore the Population "explosion"'; examine earth's depleting resources; plus look at current social and political issues.

#### Sociology 120 This course will introduce students to the basic theoretical development and scientific foundation of this discipline. Students will develop the ability to examine social phenomena objectively and increase their understanding of the components and dynamics of social groups as they affect culture. Many interesting topics such as culture, socialization, deviance and social control, religion and social movements will be covered. Each student will be required to prepare and deliver a seminar to the class.

### MATHEMATICS

#### Geometry, Measurement and Finance 10

Geometry, Measurement and Finance 10 provides foundations for further study in mathematics and along mathematics pathways, and includes concepts in geometry and measurement, and develops financial literacy. Learners will relate the properties and principles of lines and angles; compare and apply systems of measurement; apply financial literacy concepts to personal financial decisions and wellness; apply formulae to solve problems. Learners will enact and apply prior Mathematics K-9 knowledge, and personal financial decision making and wellness knowledge from Personal Wellness 6-8 curriculum. Geometry, Measurement and Finance 10 is the final compulsive mathematics course in New Brunswick. Topics include Pythagorean Theorem; polygons; angles; trigonometric ratios; metric and imperial systems of measurement; surface area and volume; unit pricing; currency exchange; income (gross and net pay); credit cards; loans; interest.

#### Number, Relations and Functions 10

This is a recommended course for grade 10 students and required if students are choosing an academic mathematics pathway. This is a pre-requisite for Foundations of Mathematics 110. The course includes the following topics: factors and multiples of whole numbers, perfect squares and cubes and their roots, common factors of a polynomial, factoring, irrational numbers, mixed and entire rationales, fractional and negative exponents, relations and functions, graphs, linear functions, systems of linear equations.

####  Financial and Workplace Mathematics 110

This is a compulsory course that meets the graduation requirement of ONE Mathematics course at the grade 11/12 level. This course will develop basic and practical skills that will ensure students develop basic life skills to deal with money, measurement, statistics, and basic number operations.

#### Financial Workplace Mathematics 120

This is the second 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. Students explore the limitations of measuring instruments, and solve problems using sine and cosine laws and the properties of triangles, quadrilateral, and regular polygons as they relate to construction, industrial, commercial and artistic applications. Transformations of 2-D and 3-D shapes are identified, drawn with and without technology, and used to create, analyze and describe designs and to solve contextual problems. The viability of small business options are explored including expenses, feasibility, and factors that could impact on profitability. Linear relations are studied, including patterns and trends, graphing, creating tables of values, writing equations, interpolating and extrapolating, and solving problems. Students gain an understanding of mean, weighted and trimmed mean, median and mode, and explore the impact of outliers. They also compare percent and percentile, and explore probability. Opportunity is given to research and present an historical event or an area of interest that involves mathematics.

#### Foundations of Mathematics 110

This course has the following pre-requisites: Geometry, Measurement & Finance 10 AND Numbers, Relations & Functions 10. This course is designed to ensure that students obtain the necessary foundation to pursue post-secondary programs that may require a Mathematical background. Upon completion, students may continue on to further study mathematics by enrolling in the Pre-Calculus 110 course. Otherwise, students will be able to take either the Workplace/Financial Mathematics 110 or Foundations of Mathematics 120.

#### Foundations of Mathematics 120

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.

#### Pre-Calculus 110

This elective course follows *Foundations of Mathematics 110* and is the first course in the Pre-Calculus pathway that can be selected by students. This pathway is designed to provide students with the mathematical understandings and critical-thinking skills identified for entry into post-secondary programs that require the study of theoretical calculus.

#### Pre-Calculus 12A

This elective course follows *Pre-Calculus 110* and is the second course in the Pre-Calculus pathway that can be selected by students. This pathway is designed to provide students with mathematical understandings and critical-thinking skills identified for entry into post-secondary programs that require the study of theoretical calculus.

#### Pre-Calculus 12B

This elective course follows *Pre-Calculus 12A* and is the third course in the Pre-Calculus pathway that can be selected by students. This pathway is designed to provide students with mathematical understandings and critical-thinking skills identified for entry into post-secondary programs that require the study of theoretical calculus.

#### Calculus 120

This is the last course offered in the Pre-Calculus Pathway and follows *Pre-Calculus B 120*. The course will introduce derivatives of polynomial, trigonometric, inverse trigonometric, exponential and logarithmic functions, and the product, quotient and chain rules. Applications of derivatives will be explored including rates of change, increasing and decreasing functions, maximum and minimum values, optimization problems, concavity and the second derivative, curve sketching, indeterminate forms and l’Hopital’s Rule. Integrals will also be explored including interpretations, properties and numerical approximations of definite integrals, applications of integrals, and techniques and applications of antidifferentiation.

### SCIENCE

#### Agriculture 110

Agriculture 110 includes the history and evolution of Agriculture in New Brunswick which recognizes Indigenous and settler contributions, everyday impacts on life in New Brunswick, and specific types of Agriculture predominant in New Brunswick. Learners will apply knowledge of plants and animals to local contexts, to introductory plant growing and animal care research skills, this leads to creating quality Agriculture products and/or operations. Learners will apply skills during Agriculture experiences and/or work placements and will have build knowledge in Agricultural careers. Agriculture 110 allows the opportunity for a learner-led personal choice project or development of a business proposal and plan to summarize and demonstrate learning.

#### Automotive Electrical Systems 120

This is a course designed to introduce the student to the theory of operation and basic service of the automotive electrical systems. The students will study the function of electrical system components and practice basic service procedures. Suggested Pre-requisite: Internal Combustion Engines 110. This course meets the Science requirement for graduation. \*Fine Arts/Life Role Development Option

#### Biology 112

This is an introductory course based on four units of study. The principle emphasis is on energy, water, equilibrium and systems. The units of study are: 1. Biodiversity; 2. Energy Flows and Cellular Matter; 3. Energy and Matter Exchange by Human and Other Organisms; 4. Energy and Matter Exchange in Ecosystems; 5. Animal Kingdom; 6. Digestion, Circulation, Blood and Immunity and Respiration.

#### Biology 122

This is a continuation of Biology 112. It is based on four units of study. The principal emphasis is on exchange, diversity, equilibrium, systems and models. The units of study are: 1. Systems Regulating Change in Human and Other Organisms; 2. Reproduction and Development; 3. Chromosomes, Genes and DNA; 4. Change in Populations, Communities and Species; 5. Protein Synthesis. (Biology 112 would be an asset and is recommended but is not a prerequisite.)

#### Chemistry 112

This is the first of a two-semester sequential course designed for students who plan to pursue nursing, medicine, science or engineering courses at the university level or similar technical programs at community college. Proficiency in science and mathematics is required. Level two mathematics is highly recommended.

#### Chemistry 122

This is the second of a two-semester sequential course recommended for students planning to pursue nursing, medicine, science or engineering courses at the university level or similar technical programs at community college. Prerequisite: Chemistry 112.

**Human Physiology 110**

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. It will also be relevant to those students who will be going on to careers in the social sciences, kinesiology, and health care.

This course 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.

#### Introduction To Environmental Science 120

The objective of this course is for students to develop the knowledge base and skills for investigating/analyzing environmental issues while communicating their findings to others. The units of study are: 1) An Overview of Environmental Science [Issues and Populations]; 2) Sustainable Development [Ecology, Environmental Awareness, Sustainable Ecosystems and Communities]; 3) Investigating Environmental Issues [Themed Project with a research paper, presentation, and eco-challenge activities].

#### Physics 112

This is the first of a two-semester sequential course designed for students planning to pursue science/engineering courses at the university level or who plan to enroll in a technical program at community college. Proficiency in science and mathematics is required. Level two mathematics is highly recommended.

#### Physics 122

This is the second of a two-semester sequential course recommended for students planning to pursue science/engineering at the university level or who plan to enroll in a technical program at community college. Prerequisite: Physics 112.

#### Science 10: Science for sustainable societies

#### Learners enrolled in Science 10: Science for Sustainable Societies will consider the roles science and technology play in their lives and communities. Throughout the course, learners examine how scientific concepts and theories are applied to sustain the environment and natural resources we chemically transform.

#### The connections that exist between matter and energy are explored through systems thinking. Systems thinking helps learners determine ways to connect chemical reactions to planetary cycles, and to weave core concepts into sustainability discourse. Using systems thinking to consider the complex interplay of chemical processes with scientific, societal, and environmental systems provide learners with critical knowledge required for other high school science courses.

#### Through investigations learners will examine how matter is transformed into the products and technologies they use daily, how this matter flows through society, and explore emerging theories in sustainability and energy production. Learners gain deeper understandings of the complexities of societal development, apply critical analysis skills to design solutions for problems in their community, and connect their learning to Sustainable Development Goals.

#### Science 122

This is a one-semester course designed for students who plan to pursue science/engineering courses at the university level. Prerequisites for this course are the Chemistry and Physics courses. The course deals with the following topics:

1. Optics
2. Magnetism

 3. Fluid Mechanics

 4. Thermal Physics

 5. Nuclear Physics

 6. Redox Reactions

 7. Electrochemical Cells

### PERSONALIZED WELL-BEING

### CREATIVE ARTS

#### Digital Productions 120

This course is designed to introduce students to cutting edge technology used in the multimedia industry. Students will use industry standard software which will help prepare them for post-secondary technology schools.

On successfully completing this course, students will be able to:

* Follow Canadian copyright law and related ethical standards in your work.
* Create effectively designed digital imaging products.
* Create their own audio products.
* Create their own video products.
* Create and edit their own website using the principles of effective web-page design

An interest/ability in digital technology/production is an asset.

#### Dramatic Arts 110

Dramatic Arts 110 is a performance-based course designed to encourage students to develop their dramatic skills through exposure to a variety of challenges and opportunities that require creative and higher-order thinking skills. In this course, students will be required to work individually, independently, in small groups, and in larger ensembles. Projects and research activities are encouraged to be activity-based experiential learning.  Students will be exposed to a wide range of dramatic conventions and styles for the purpose of creating, analyzing, conducting research, and performing. Students may be required to work outside of the classroom (including individual/ensemble practice and studio rehearsal) as the manifestations of theatre activities are many and varied.  Students are also strongly encouraged to experience extracurricular and community-based opportunities.

\*Fine Arts/Life Role Development Option

#### Dramatic Arts 120

This is an elective course that deals with the major aspects of theatre performance including acting, stage craft, play management and theatre history. Students are required to perform in public and must be prepared to memorize. Dramatic Arts 120 expands on the skills acquired in Dramatic Arts 110.  While students are not required to take Dramatic Arts 110 as a pre-requisite it would be beneficial. In Dramatic Arts 120, students will be expected to have more involvement and ownership of their learning and subsequent assessment.

\*Fine Arts/Life Role Development Option

#### Graphic Art and Design 110

This course is designed to provide students with a basic understanding of design and layout which will foster confidence in their own abilities. Throughout the course students will be asked to take ideas and requirements and make them visual and appealing using an assortment of software programs, such as Adobe Photoshop, to achieve desired effects with graphic images. Good attendance is extremely important in this course.

Students will develop various graphic projects starting with fundamental progressing on through advanced procedures.

Areas of study will include:

 The History of Graphic Arts

 Elements of Visual Perception

 Principles of Visual Perception

 Composing the Image Optically

Students considering a career in a graphic arts related area would benefit greatly from this course. Creativity and an interest/ability in art and drawing is an asset. \*Fine Arts/Life Role Development Option

#### Fashion Technology and design 110

This course focuses on the present-day fashion, textile and apparel Fashion Technology and Design 110 aims to prepare students for future careers in the fashion industry. Students will engage in problem solving and decision making, task and process analysis, and improve time management skills while exploring industry standards and practices. Through the application of current techniques of product construction and design this course of study will assist learners in gaining a better understanding of the fashion production process. While engaging in practical applications, learners will explore options that emphasize sustainability and a reduction of the industry’s environmental impact. Learning through the activities in this course of study will empower students to make a positive difference in their lives, their families, and their communities.

\*Fine Arts/Life Role Development Option

#### Fashion Technology and design 120

Fashion Technology and Design 120 is designed to prepare students for future careers in the fashion design industry. Students will engage in problem solving and decision making, task and process analysis, and improve time management skills while exploring industry standards and practices. Through practical activities learners will apply various sequential creative processes to assist them in gaining a better understanding of the fashion design and construction process. Learners will also examine the business of fashion including apparel production, marketing, and promotion. The impact of current means of production and exploration of ethical and sustainable practices will be evaluated. The goal of Fashion Technology and Design 120 is to empower students to make a positive difference in their lives, their families, and their communities.

#### Media Studies 120

This is a course that offers an introduction to the evolution and impact of mass media on the individual and society. The television/video unit is compulsory, accompanied by a choice of three additional units on advertising, film, print and electronic journalism.

The primary purpose of the course is to have students learn through experiment and exploration; the course is practical, and activity based. Students enrolled in Media Studies 120 must be mature enough to meet the high level of independence, reliability and responsibility required of them.

#### Music 10

The grade 10 program is outcome-directed; that is, the knowledge and skills that students must demonstrate are articulated in outcome form. Every outcome is followed by an elaboration that provides further information on, and clarification of the outcome. This elaboration also includes a list of activities, experiences, and objectives that, if achieved, will help the student meet the outcome.

#### Music 112

This course involves increased demands on ability of a major instrument, history and theory. NOTE: Participation in Concert Band and/or Jazz Ensembles is an element of this course. \*Fine Arts/Life Role Development Option

#### Music 120

This is a preparation course for university level music: performance, history and composition. There is a Band element also. Course selection is subject to approval. This is a university preparatory class. \*Fine Arts/Life Role Development Option

#### Visual Arts 10

This course is designed to continue developing artistic knowledge and skills from Visual Arts 9. This course is heavily project-based, and students are expected to create expressive works with a range of audiences, and purposes using a variety of different artistic techniques. Projects are broken down into four different categories: Art Processes, Forms & Applications, Self-Expression & Reflection, Socio & Cultural Art; Cumulative Art.

#### Visual Arts 110

This course is designed to improve student skills and knowledge in a variety of areas: drawing, painting, color theory, sculpture, art history, sketchbooks. \*Fine Arts/Life Role Development Option

#### Visual Arts 120

This course is designed for motivated art students and those considering attending art school in the future. Studio projects will demand technical excellence and originality. Students will keep a sketch book and notebook and are required to supply some of their own materials. Art 110 is a prerequisite for Art 120. \*Fine Arts/Life Role Development Option

### WELLNESS AND PHYSICAL EDUCATION

#### Advanced Outdoor Pursuits 120

This is a follow-up to Outdoor Pursuits 110. It builds on the skills learned in the previous course. Enrollment is limited to 18 students per semester and preference is given to grade 12 students. Students must apply. \*Locally Developed Course

#### Advanced Training Principles 110 (Fitness 110)

Health and physical education 110 is a course which develops and improves ones physical fitness level.  The course is designed for students to learn about training and the importance of physical fitness for life.  Daily training will include: daily running, circuits, weight training, various fitness tests. \*Locally Developed Course

#### Child Studies 120

This course is an in-depth study of children from conception to school age (6). Learning about children and their development can improve your understanding both of children and yourself. It can also help you think about your future in relation to parenthood and career choices.

#### Human Services 110

If you have an interest in nursing, social work or education, this course will focus on the skills needed to prepare you to work with the elderly and the handicapped.

The overall aim of Human Services is to increase your awareness of the importance of human service work and to prepare you for future employment and/or post-secondary education. You will learn practical skills needed to work with and care for special needs students through participation in activities with students in our school.

#### Individual and Family Dynamics 120

Students will see the connections made between the course content and their personal development and relationships. This curriculum will help prepare them to have a better understanding of themselves, their family and the world around them. Individual and Family Dynamics 120 touches on aspects of sociology, psychology, economics and anthropology. The knowledge and skills presented in the course will benefit students who may wish to pursue fields of study such as: law enforcement, social services, family law, careers in counseling, psychotherapy and family medicine. \*Fine Arts/Life Role Development Option

#### Outdoor Education 110

This course is a “selective-elective” with 9/10 physical education as a pre-requisite. The course will develop personal outdoor recreation skills based on environment ethics. Students must satisfy a requirement to complete a series of out-trips that may be day-trips, overnight or extended trips. The course will take advantage of local outdoor access and could include camping, hiking, canoeing and other outdoor adventure activities. Students must be prepared to plan, lead and evaluate out-trip experiences from personal and group dynamics perspectives by compiling a journal. Enrollment is limited to 18 students per semester and preference is given to grade 12 students. Students must apply. \*Fine Arts/Life Role Development Option

#### PHYSICAL EDUCATION 10

Awaiting release of new curriculum document in May 2023.

#### Nutrition For Healthy living 120

This is a university level course. This course is excellent for those concerned with personal wellness or for students who wish to pursue a career in Science and Nutrition, Nursing, Dietetics or the Social Sciences.

Nutrition for Healthy Eating 120 is designed to help students understand information to help make them healthy choices. They will become aware of strategies that contribute to overall wellness and strategies needed to maintain a balance between eating habits and physical activity. The roles of nutrients in the body-digestion, absorption, transportation of nutrients and metabolism are explained. Chronic conditions, lifestyles and food technologies will be discussed. Students will be encouraged to use reliable information to examine their eating habits and lifestyle choices. \*Fine Arts/Life Role Development Option

#### Sport and Recreation Leadership 120

#### The vision for this course is to have learners successfully plan, organize, and administer their own event, tournament, and program. Educators will facilitate opportunities for learners to develop sport and recreation leadership skills within their school, community and beyond.

#### The learner's leadership potential is developed when initiatives serve to reinforce skill development around leadership roles. This course seeks to use sport and recreational activities as a tool for creating concrete leadership experiences and develop leadership potential.

#### Learners will explore various roles in team dynamics including being a leader, mentor, and collaborating positively with others in inclusive experiences. The emphasis of this course focuses on planning, performance, evaluation, and reflection.

#### Planning and operation of events, tournaments, and programs will require learners to dedicate time outside of school hours (e.g., before school, after school, evenings, and/or weekends). \*Fine Arts/Life Role Development Option

#### Wellness through Physical Education 110

The aim of Wellness through PE 110 is to promote healthy active living for life.  The course goal is to explore a variety of activities highlighting non-traditional approaches to fitness and wellness.  As a result, the course offers a range of learning experiences for students that encourage healthy active living.  This course is intended to allow students the opportunity to be physically active, while further enhancing their decision-making skills towards personal wellness.  This course requires excellent participation and attendance in the 9/10 Physical Education programs as a pre-requisite. \*Fine Arts/Life Role Development Option

### CAREER CONNECTED

#### Career pathway design 10

Career is the journey through life, learning and work. Not just employment. The vision for this course is to provide equitable and inclusive carer pathway planning for each student. Career pathway planning plays an important role in one's sense of self and life satisfaction. Psychological wellbeing is directly linked to career pathway planning. This course is informed by evidence-based research as found in the New Brunswick Career Education Framework. It builds upon the Personal Wellness 3-9 continuum of learning and Career Connected Learning K-12. This course is an opportunity for further career pathway and transition planning allowing for informed high school and post-secondary life decisions. Participating in this course will provide learners with autonomy and increased engagement in their personalized high school pathway. This course will help contextualize high school learning with purpose and career pathway connections. Career Pathway Design 10 encourages students to engage in informed career pathway planning through self-awareness, exploration of opportunities and engagement in authentic career connected experiences. Throughout the course, students will develop the skills and competencies to design personalized career pathways for high school and life after graduation.

#### Cooperative Education 120

This course is open to all Grade 12 students who wish to acquire on the job experiences in an area in which they plan to further their education. Students must apply in advance for this course, have acceptable grades, show maturity and have good attendance. Students will be considered for this course by application and interview. (This is a two-credit course.) \*Fine Arts/Life Role Development Option

### INFORMATION AND COMMUNICATION TECHNOLOGY

#### Computer Aided Design 110

This course is designed to assist students in understanding the relevance and importance of Computer Assisted Drafting and Design as it related to industry today. Students will use the widely popular AutoCAD program where skills in creating 2D drawings will be the focus. Students will be expected to become familiar with the various procedures required to complete technical drawings that include Isometric Drawings that allow for the creation of 3D drawings and Orthographic Projection Drawings that are used to illustrate floor plans, wall sections and elevation drawings. It will be important that students understand X, Y coordinates as well as Polar Co-ordinates. This course will be worthwhile to students considering the Civil Technology Program at NBCC or other related programs, as well as Bachelor of Science in Engineering or related courseware.

#### Computer Science 110

 This course is essentially an introduction to the computer programming using Visual Basic and possibly other programming languages. It focuses on developing the knowledge, skills and attitudes to solve real world problems via computer programming. Specifically, this course focuses on problem solving, technological competence and communication. This course will prepare the student to make an educated decision with respect to career opportunities at the post-secondary level. Students will have an opportunity to work on special projects involving new technologies including: Sparkfun Electronics, Makey Makey, Arduino Programming, Robotics, 3D Printing, Remote Operated Vehicles, Videography involving GoPro and Oculus Rift Technology.

#### Computer Science 120

This course will teach programming using the computer language Java in a Windows environment. This course may help students planning on taking Computer Science/Engineering at university or community college. Computer Science 110 is highly recommended.

#### Cybersecurity and Technical Support 110

The Cybersecurity and Technical Support 110 (CSTS110) course will inspire students through the experiential learning of the fundamentals of computer and network systems, the activities and processes involved in technical support, and the defensive strategies from cybersecurity. In CSTS110, students will be actively engaged in the design, development and evaluation of technical support and cybersecurity projects, including awareness, concepts and challenges. The intent of this program of study is to have students discussing real-world case studies and learning in hands-on activities from day one and maintaining a high level of engagement throughout the course through a commitment to problem-based and project-based learning. To achieve this high level of student engagement, teachers will use a feedback loop of instruction, hands-on learning, formative and summative assessment.

#### Cybersecurity 120

#### The Cybersecurity 120 (CYBER120) course will inspire students through the experiential learning of the fundamentals and possibilities of cybersecurity. In Cybersecurity 120, students will be actively engaged in the design, development and evaluation of defensive cybersecurity projects, including awareness, concepts and challenges. The intent of this program of study is to have students discussing real-world case studies and learning in hands-on activities from day one, while maintaining a high level of engagement throughout the course through a commitment to problem-based and project-based learning. To achieve a high level of student engagement, teachers will use a feedback loop of instruction, hands-on learning, and assessment.

#### Digital Productions 120

This course is designed to introduce students to cutting edge technology used in the multimedia industry. Students will use industry standard software which will help prepare them for post-secondary technology schools.

On successfully completing this course, students will be able to:

* Follow Canadian copyright law and related ethical standards in your work.
* Create effectively designed digital imaging products.
* Create their own audio products.
* Create their own video products.
* Create and edit their own website using the principles of effective web-page design

An interest/ability in digital technology/production is an asset.

#### Information Technology 120

The Information Technology 120 curriculum will develop competencies that will prepare the student to work as a business/entrepreneur, systems or information analyst, or architect. A combination of information technology competencies with technical skills to analyze business needs, and problems with proposed solutions that incorporate technology effectively, are the areas which Information Technology 120 contributes to the FIT Program.

This course is designed to function with a range of business software but MVHS will focus on the Microsoft Office package (Word, Excel, PowerPoint and Access).

The Information Technology 120 curriculum consists of the following three units:

1. IT Perspective

 🞟 *Students will understand key IT function components and how they contribute to enterprise effectiveness. Students will gain perspective throughout the course as they accomplish the required activities.*

1. ICT Project Management

🞟 *Students will learn about, realize the importance of, and apply project management skills throughout the hands-on unit (Word Processing, Spreadsheet, Database, Presentations)*

1. Software Applications

🞟 *The majority of this course explores how productivity software is essential in business and industry. Students will learn how to recognize what combination of application software could help businesses and industry accomplish goals.*

### OCCUPATIONAL

#### Agriculture 110

Agriculture 110 includes the history and evolution of Agriculture in New Brunswick which recognizes Indigenous and settler contributions, everyday impacts on life in New Brunswick, and specific types of Agriculture predominant in New Brunswick. Learners will apply knowledge of plants and animals to local contexts, to introductory plant growing and animal care research skills, this leads to creating quality Agriculture products and/or operations. Learners will apply skills during Agriculture experiences and/or work placements and will have build knowledge in Agricultural careers. Agriculture 110 allows the opportunity for a learner-led personal choice project or development of a business proposal and plan to summarize and demonstrate learning.

#### Business Organization and Management 120

The course is designed to provide the student with skills in leadership, critical thinking and problem solving. Students will develop communication and collaboration skills while working on project-based learning assignments. Through this course students will develop 21st century skills which will help students to become creative innovators who will be able to quickly adapt to an ever-changing business environment. While students are engaged in their learning they will develop digital literacy skills. Main topics to be covered include Ethics, Business Environment, Management, Business Ownership and Human Resources. It is a good course if you are planning on taking Business in post-secondary school.

#### Early Childhood Services 110

This course helps students prepare for a career in teaching and/or in child care. Students work in a group setting where they will be involved in planning curriculum, preparing lessons, organizing schedules required in the operation of a playschool for preschoolers. The student will learn practical skills for guiding children as they establish rules and handle daily activities. This is an independent course where self-motivation/direction is required. Attendance is critical.

#### Early Childhood Services 120

The overall aim of this course is to prepare students for careers working with young children in relation to the New Brunswick Early Learning Framework. Students will evaluate their capacity as an early childhood educator and the requirements for employment in New Brunswick. The focus will be valuing the early years and the topics of: Well Being, Play and Playfulness, Communication and Literacy, Diversity and Social Responsibility. Post-secondary employment opportunities will be researched as well.

#### Entrepreneurship 110

In this course attitudes and aptitudes will be covered to determine if you have the necessary skills involved in owning and operating a small business. Students will be required to work in small groups to plan and operate a business venture. \*Fine Arts/Life Role Development Option.

#### Fashion Technology and design 110

This course focuses on the present-day fashion, textile and apparel Fashion Technology and Design 110 aims to prepare students for future careers in the fashion industry. Students will engage in problem solving and decision making, task and process analysis, and improve time management skills while exploring industry standards and practices. Through the application of current techniques of product construction and design this course of study will assist learners in gaining a better understanding of the fashion production process. While engaging in practical applications, learners will explore options that emphasize sustainability and a reduction of the industry’s environmental impact. Learning through the activities in this course of study will empower students to make a positive difference in their lives, their families, and their communities.

\*Fine Arts/Life Role Development Option

#### Fashion Technology and design 120

Fashion Technology and Design 120 is designed to prepare students for future careers in the fashion design industry. Students will engage in problem solving and decision making, task and process analysis, and improve time management skills while exploring industry standards and practices. Through practical activities learners will apply various sequential creative processes to assist them in gaining a better understanding of the fashion design and construction process. Learners will also examine the business of fashion including apparel production, marketing, and promotion. The impact of current means of production and exploration of ethical and sustainable practices will be evaluated. The goal of Fashion Technology and Design 120 is to empower students to make a positive difference in their lives, their families, and their communities.

#### Housing and Design 120

The overall aim of this course is to provide students with lifelong learning skills that are transferable to future learning related to the housing environment and interior décor. Students will:

 • raise the students’ awareness of architectural aesthetics;

• understand the motivating factors that have an impact on the economy and environment;

 • utilize the elements and principles of design as they apply to interior décor;

 • encourage individual creativity through interior design;

 • incorporate technology options in the living environment; and,

 • identify issues related to human needs and their impact on future housing trends. \*Fine Arts/Life Role Development Option

#### Hospitality and Tourism 110

In this course students will be introduced to the Hospitality and Tourism Industry, particularly in the Atlantic tourism region. They will learn the workplace skills, knowledge, attitudes and marketing strategies for this industry, as well as safety skills. Various career paths for this industry will be explored.

#### Introduction to Accounting 120

The focus of this course is to provide the essential understandings, economic framework, consumer skills and attitudes to successfully participate in a society influenced by financial and business decisions. Students will better manage personal finances, understand obligations of business owners and make informed decisions concerning life careers and choices. The intention of this course is to encourage students to further their education in a Bachelor of Business Administration or Bachelor of Commerce program. This is a university recognized credit.

#### Marketing 120

Knowledge of marketing techniques and strategies enables learners to develop marketing plans that appeal to the consumer, by identifying and reflecting on the various wants, needs, and experiences of the target audience. Understanding the purpose of marketing and strategies used to evoke an emotional response in consumers can help prepare learners to interact positively with digital media. Learners will develop skills to decode data and data visualizations to support critical thinking when interacting with information that surrounds them. Engaging with different marketing approaches will encourage learners to improve communication and negotiation skills, transferable skills outside of the classroom and beyond graduation.

### SKILLED TRADES

#### Automotive Electrical Systems 120

This is a course designed to introduce the student to the theory of operation and basic service of the automotive electrical systems. The students will study the function of electrical system components and practice basic service procedures. Suggested Pre-requisite: Internal Combustion Engines 110. This course meets the Science requirement for graduation. \*Fine Arts/Life Role Development Option

#### Culinary Technology 110

This is an entry-level, hands-on food service training course. Culinary skill sets include: industry organization, standards, safety and sanitation, use of tools and equipment, and food preparation. Students will study the theory of each skill and be encouraged to practice those skills through enterprise activities in the student operated Culinary Café The overall aim of this course is to cultivate the need and desire of students to follow safe work practices and to develop the language and work skills of the trade by being able to:

 • explore employment skills and career awareness in culinary arts and associated trades (cook, baker, pastry chef, server, steward, and management);

• identify potential employment options looking at provincial statistics and industry projections; and,

 • identify the certification and continued education available at colleges and universities, as well as an awareness of the Canadian Red Seal Certification Program and its professional designation (RSE). \*Fine Arts/Life Role Development Option

#### Culinary Technology 120

Culinary Technology 120 is a continuation of Culinary Technology 110. The grade 12 skill sets include a review of skills learned in grade 11, along with large equipment and food preparation skills with a focus on scratch cookery and current trends in nutrition and industry. Culinary Technology 110 is a pre or co-requisite of Culinary Technology 120. Students will continue to study the theory of each skill and then be encouraged to practice those skills through enterprise activities. The overall aim of this course is to cultivate the need and desire of students to follow safe work practices and to develop the language and work skills of the trade by being able to: 11 • explore employment skills and career awareness in Culinary Arts and associated trades (cook, baker, pastry chef, server, steward, and management); • identify potential employment options looking at provincial statistics and industry projections; and, • identify the certification and continued education available at colleges and universities, as well as an awareness of the Canadian Red Seal Certification Program and its professional designation (RSE).

. \*Fine Arts/Life Role Development Option

#### Electrical Wiring 110

Students in this course will study the basic tools, materials and techniques used in residential wiring. Study includes the design and placement of circuits in a model family dwelling, according to the Canadian Electrical Code. The course will be of interest to students interested in exploring careers related to the electrical trade.

\*Fine Arts/Life Role Development Option

#### Framing and Sheathing 110

This course combines classroom instruction with hands-on activities to develop the skills and knowledge associated with the framing in or shell construction of a typical single-family dwelling. Lab safety as well as hand tools and equipment safety will be emphasized. There is a final exam in this course but exemptions do apply.

\*Fine Arts/Life Role Development Option

#### Internal Combustion Engines 110

This is a course designed to introduce the basics in the repair, overhaul, service and testing of the internal combustion engine. The theory of operation of the engine and its components is emphasized along with the development of manipulative skills and work habits. \*Fine Arts/Life Role Development Option

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#### Introduction to Applied Technology 110

Students will complete a series of projects from the areas of Woodworking, Motor Mechanics, Plumbing, Drywall Repair, Electrical, Manufacturing and Construction. All projects will be done in groups except for woodworking.

\*Fine Arts/Life Role Development Option

#### Welding/Metals Fabrication 110

This is a practical course involving both classroom and lab activities. The methods of fabricating and fastening components will be explored as will gas and electric welding, oxy-acetylene cutting, brazing and soldering through the completion of compulsory projects. Lab safety as well as hands on tools and equipment safety will be emphasized. There is a final exam in this course, but exemptions do apply. \*Fine Arts/Life Role Development Option

#### Metals Processing 110

This is an introductory course involving classroom instruction and hands-on activities relating to industrial practices in the metals industry. Includes bench work, basic machine work, lathe operation, drill press and other machines. Lab safety as well as hands on tools and equipment safety will be emphasized. There is a final exam in this course but exemptions do apply. \*Fine Arts/Life Role Development Option

#### Metals Processing 120

\*Fine Arts/Life Role Development Option

#### Mill And Cabinet 120

This is a course designed to introduce students (through classroom instruction and hands-on activities) to the materials and processes involved in the manufacturing and installation of cabinets and interior finish components found in a typical house. Lab safety as well as hand tools and equipment safety will be emphasized. There is a final exam in this course but exemptions do apply. (Suggested pre-requisite: Framing & Sheathing 110)

\*Fine Arts/Life Role Development Option

#### Power train and Chassis 110

This is a course designed to introduce the basics in the service and maintenance of the automobile chassis and power train. \*Fine Arts/Life Role Development Option

#### Residential Finish 120

This course examines the work required to finish a family dwelling once it is framed-in. Topics covered include insulation, wall cladding, doors, windows, cornice trim and roof covering. Students will study these topics both in theory and through practical project work. This course should be of interest and value to those students interested in pursuing a career related to the residential construction industry. Pre-Requisite: Framing & Sheathing 110 \*Fine Arts/Life Role Development Option

#### Tune up and Emissions 120

This is a course designed to provide students with a practical approach to diagnosing, servicing, and repairing of automotive fuel and emission systems and to performing engine tune-ups. Suggested Pre-requisite: Internal Combustion Engines 110 and Automotive Electrical Systems 120. \*Fine Arts/Life Role Development Option

***Pathways and Courses***

## SUMMARY—The Conceptual Framework for Grades 10–12 Mathematics describes the nature of mathematics, the mathematical processes, the pathways and topics, and the role of outcomes and achievement indicators in grades 10–12 mathematics. Activities that take place in the mathematics classroom should be based on a problem-solving approach that incorporates the mathematical processes and leads students to an understanding of the nature of mathematics.

The graphic below summarizes the three mathematics pathways and courses currently offered.

**Mathematics K-9**

***Grade 10***

-All students are required to successfully complete Geometry, Measurement, and Finance 10.

-Number, Relations, and Functions 10 is a credit course for high school graduation, it is a pre-requisite course prior to the Foundations of Mathematics and Calculus mathematics pathways.

**Number, Relations and Functions 10**

**Geometry, Measurement**

**and Finance 10**

**Grade 11**

-Students must successfully complete Geometry, Measurement and Finance 10 before enrolling in Financial and Workplace Mathematics 110.

- Students must successfully complete Geometry, Measurement and Finance 10 and Number, Relations and Functions 10 before enrolling in Foundations of Mathematics 110.

-Students must successfully complete Foundations of Mathematics 110 (as well as successfully complete both Grade 10 mathematics courses) before enrolling in Pre-Calculus 110.

**Pre-Calculus 110**

**Foundations of Mathematics 110**

**Financial and Workplace Mathematics 110**

*Pre-requisites:*

*Geometry, Measurement and Finance 10* ***and***

*Number, Relations and Functions 10*

*Pre-requisite:*

*Geometry, Measurement and Finance 10*

*Pre-requisite or Co-requisite:*

*Foundations of*

*Mathematics 110*

**Grade 12**

-Students must successfully complete Financial and Workplace Mathematics 110 or Foundations of Mathematics 110 before enrolling in Financial and Workplace Mathematics 120.

-Students must successfully complete Foundations of Mathematics 110 before enrolling in Foundations of Mathematics 120.

-Students must successfully complete Pre-Calculus 110 before enrolling in Pre-Calculus 120A.

* *Pre-requisite Grade 11 or Grade 12 course must be passed before taking Grade 12 courses.*

**Pre-Calculus 120A**

**Foundations of Mathematics 120**

*Pre-requisite: Foundations of Mathematics 110*

**Financial and Workplace Mathematics 120**

*Pre-requisite: Financial and Workplace Mathematics 110* ***or***

*Foundations of Mathematics 110*

*Pre-requisite: Pre-Calculus 110*

**Pre-Calculus 12B**

*Pre-requisite: Pre-Calculus 120A*

*Pre-requisite: Pre-Calculus 120A* ***and*** *Pre-Calculus 120 B*

**Calculus 12**

##

**Beginning September 2020, students expected to graduate in 2023 must complete 18 credits for high school graduation, 2 of which must be Mathematics credits.**

**Number, Relations and Functions 10 is considered a mathematics credit, as well as all Grade 11 and Grade 12 courses within the three mathematics graduation pathways.**

**Note: Beginning September 2020,**

Math 9 A & B

(Full year, required)

**students expected to graduate in 2023**

**must complete 18 credits, for High**

**School Graduation, two of which**

**must be Mathematics credits.**

Geometry, Measurement and Finance 10(Required)

Pathway A

Pathway B

Numbers, Relations and Functions 10

(\*elective)

Financial and Workplace Math 110

Foundations 110

Financial and Workplace Math 120

Pre-Calculus 110

Foundations 120

Pre-Calculus 120 A

Pre-Calculus 120 B

Calculus 120

**\*Numbers, Relations and Functions 10 is now an elective course and is recognized for credit.**

Pathway A is necessary for any students considering post-secondary programs in business, engineering, nursing, or science. Pathway B is sufficient for most students considering post-secondary programs in the arts or in the trades (exceptions do apply to some programs; please see guidance for clarification).

**Compulsory Credits for Graduates of 2026**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Core Clusters | Required  | Compulsory  |
| Language Arts and Languages | 24 credit hours | PIF/FILA 10, ELA 10, ELA 11, ELA 12 (all of these are 4 credits hours) AND 8 credit hours of options from Language Arts and LanguagesNote: See [Course Options Section](#_Course_Options) for choices available to Newcomer and Indigenous students.  |
| Humanities | 8 credit hours | Civics 10 and 4 credit hours from Designated History Course List |
| Mathematics | 12 credit hours  | Geometry, Measurement and Finance 10 and 8 credit hours from Math  |
| Science | 8 credit hours | Options from Science  |
| Personalized Well-Being  | Creative Arts | 4 credit hours | Options from Creative Arts  |
| Wellness and Physical Education  | 4 credit hours | Options from Wellness Physical Education  |
| Career-Connected  | 4 credit hours | Options from Career, Information Communication Technology, Occupational, and Skilled Trades Options |
| Options from the three Personalized Well-being Clusters | 8 credit hours | Creative Arts, Wellness Physical Education, Career, Information Communication Technology, Occupational, and Skilled Trades |
| Core Cluster  | 8 credit hours | Options from any of the following core clusters: Language Arts and Languages, Humanities, Mathematics, Science, Creative Arts, Wellness and Physical Education, Career-Connected |
| **Clusters Credit-hours Total** | **80 credit hours** | **Prescribed Courses Only** |
| **Flexible Credit-hours Total** | **20 credit hours** | **Includes all Options for Credit** |
| **Minimum Total Credit-hours for Graduation** | **100 credit hours** | **To apply to graduate** |