**MIRAMICHI VALLEY HIGH SCHOOL**



**MIRAMICHI, NB**

**TELEPHONE: 627-4083**

**MINI-BROCHURE GUIDE**

**FOR COURSE SELECTION**

**2021-2022**

# 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 17 out of 20 credits in Grades 11-12. Five of these credits must be Grade 12 courses. Of the 17 credits, seven 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 for students entering Grade 10 in the fall of 2020 (with the expected graduation date of 2023) will be required to complete 18 credits for graduation, two of which much be mathematics credits (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 A/B; B/A **(2 Credits)**

Math 11 **(1 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

Automotive Electrical Systems 120

**FINE ART & LIFE ROLE OPTIONS**

Cooperative Education 120 (2 credits) MAKE (Co-op 120 1 credit)

Entrepreneurship 110 Culinary Technology 110/120

Individual and Family Dynamics 120 Fashion Technology 110

Nutrition for Healthy Living 120 Fashion Design 120

Graphic Art & Design 110 Automotive Electrical Systems 120

PE Leadership 120 Internal Combustion Engines 110

Outdoor Education 110 Power Train and Chassis 110

Health & Wellness PE 110 Tune-up and Emissions 120

Music 112, 120 Introduction to Applied Technology 110

Visual Arts 110, 120 Framing and Sheathing 110

Dramatic Arts 110 Housing and Design 120

Theatre/Dramatic Arts 120 Residential Finish 120

Reading Tutor 120 Mill and Cabinet Work 120

Metals Fabrication 110 Electrical Wiring 110

Metals Processing 110/120

Growth, Goals and Grit 120

### ENGLISH

#### English 112 A/B; English 112 B/A

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 A/B; English 113 B/A

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.

#### 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”.

#### 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

#### Theatre/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. Theatre/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 Theatre/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

#### 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.

#### 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

#### 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.

#### 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

### SOCIAL STUDIES

#### 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.

#### 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.

#### 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.

#### 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.

#### 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.

#### Economics 120

This course 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 in making economic decisions and to develop an awareness of the major economic problems and issues of the day. This is a university recognized credit.

#### 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.

#### 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.

#### 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.

### MUSIC

#### 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

#### Mental wellness through Music 120

This course explores various areas such as song analysis, linking mental wellness to music, principles of music therapy, lyric creation, music development, sound recording, and performance/using music as therapy, and instrument building and video production if time allows. \*Locally Developed Course

### 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

### MATHEMATICS

#### Number, Relations and Functions 10

This is a recommended course for grade 10 students. 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

#### Physical Geography 110

This course is designed to help students acquire some of the geographer’s skills while developing a greater understanding of our home planet and how we interact with it. Topics covered include:The Nature of Physical Geography, Map Interpretation, The Earth in Space, The Structure of the Earth, From Continental Drift to Plate Tectonics, and Shaping the Land. This course is particularly recommended to students planning to pursue university or college programs in forestry, geology, civil engineering, urban or rural planning or any field related to the mining industry.

#### 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].

#### 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.)

**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.

#### 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.

#### 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 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

### LANGUAGES

#### 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.*

#### 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.

#### 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.

#### 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.

### HEALTH AND PHYSICAL EDUCATION

#### 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

#### 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

#### PE Leadership 120

This course is intended for students who wish to develop Leadership Skills in Community Programs for managing, teaching coaching and officiating. It involves selecting a volunteer Project in the community, on your own time (journal must be kept) and the course requires (one month) in the pool doing Water Safety and First –Aid Skills.

This course is based on teamwork. If you have the desire to work in a group setting towards helping others then this course is for you. This course requires excellent participation and attendance in the 9/10 Physical Education programs as a pre-requisite. \*Fine Arts/Life Role Development Option

#### Outdoor Pursuits/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

#### 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

#### Yoga 110

Yoga is a lifestyle. Students will be given the opportunity to learn in a safe environment where they can have fun through movement, social interaction and independence. Through breathing, posture development, body awareness and body/mind integration, students will gain an understanding of health promoting practices and habits. Classroom sessions are designed to educate students about the relationship between nutrition and fitness, the history and philosophy of yoga including values of non-violence, ethics, honesty, and respect in the context of challenging physical activity.

### BUSINESS DEPARTMENT

#### 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.

#### 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.

#### 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.

#### 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.

#### 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.*

#### 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

### TECHNOLOGY DEPARTMENT

#### 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

#### 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.

#### Make (Coop 120 1 credit)

This one credit cooperative education course is designed to apply the 4 C’s…Creativity; Critical Thinking & Problem Solving; Collaboration; and Communication. These skills will be beneficial in any workplace and are essential for life-long learning. The goal of the course is to improve these skills so they can be used in any future endeavors. Students will learn the basics of mechanical, electrical and computer engineering. A focus of the course will be working with electrical circuits and Arduino micro-processing. Students will apply these skills to hands-on activities and design/engineer their own project using these technologies.

#### 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.

#### 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.

### INDUSTRIAL

#### 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

#####

#### 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

#### 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

#### 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

#### 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

#### 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

#### 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

#### 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

#### Housing and Design 120

This course is designed to interest the student in the Canadian housing industry, interior design, construction and real estate. \*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

#### 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

### FAMILY STUDIES

#### 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 then practice those skills through enterprise activities in the student operated Culinary Café. \*Fine Arts/Life Role Development Option

#### Culinary Technology 120

This is a more advanced course in food preparation and technology. \*Fine Arts/Life Role Development Option

#### 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.

#### 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

#### 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.

#### Fashion Technology 110

This course focuses on the present-day fashion, textile and apparel industry.  Students will acquire introductory sewing skills, advanced sewing skills and use of current sewing machine technology.  Creativity and individual style can be developed and experienced through a variety of sewing projects of the student’s choice.   Students will explore the textile industry through the art and science of fabric design.  Entrepreneurship will be fostered through the development of a student directed business providing a variety of sewing skills.  Mending, repairs, alterations, and hemming are some of the skills that will be provided and mastered.  This is a practical course providing all students with the opportunity to develop sewing skills regardless of skill level.

\*Fine Arts/Life Role Development Option

#### Fashion Technology 120

This course builds on the skills learned in Fashion Technology 110. Pre-requisite: Fashion Technology 110.

#### Fashion Design 120

This course will provide opportunities to develop an understanding of the World of Fashion and the fashion design process. Students will evaluate the social, psychological and cultural aspects of clothing, as well as clothing messages. They will develop sketching techniques to create fashion illustrations and explore the elements and principals of design through textile media. They will learn about the nature of fashion design; the characteristics of fibres and fabrics; and the construction, production, and marketing of clothing. Fashion Design 120 is intended for students who wish to expand their knowledge of the fashion industry, or who wish to undertake further studies in the area. \*Fine Arts/Life Role Development Option

#### Nutrition For Healthy Eating 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

#### 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.

***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 will now be an elective course and be 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).