



NELSON MCINTYRE COLLEGIATE

LIGHTING THE WAY FOR OVER 100 YEARS

GRADE 10, 11, AND 12
COURSE SELECTION BOOK 2020-2021

NELSON McINTYRE COLLEGIATE GRADUATION REQUIREMENTS

All students must meet graduation requirements as prescribed by Manitoba Education Training and Youth.

Grade 9

English Language Arts	1 credit
Mathematics	1 credit
Science	1 credit
Canada/World	1 credit
Physical Education	1 credit
Career Development	1 credit
AICT	1 credit

Plus 4 (1/2 credit) electives

Total **9 credits**

Grade 10

English Language Arts	1 credit
Mathematics	1 credit
Science	1 credit
Geography	1 credit
Physical Education	1 credit
Career Development	1 credit

Plus 4 (1/2 credit) electives

Total **8 credits**

Grade 11

English Language Arts	1 credit
Mathematics	1 credit
History	1 credit
Physical Education	1 credit
Career Development	1 credit

Plus 2-3 electives

(At any level)

Total **7-8 credits**

Grade 12

English Language Arts	1 credit
Global Issues/Topics in Science	1 credit
Mathematics	1 credit
Physical Education	1 credit
Career Development	1 credit

Plus 2-3 Grade 12 electives

Total **7-8 credits**

GRAND TOTAL: **31-33 credits** (30 credits are necessary for graduation)

*Concert Band, Jazz Band, and Musical Theatre are offered outside of the regular timetable schedule, and do not count as electives. Students can take these beyond the recommended number of electives.

NELSON McINTYRE REGISTRATION PROCESS

The following outlines the steps and timelines that have been established for the registration of students at Nelson McIntyre Collegiate.

Students and parents are encouraged to obtain as much information as possible and work with their Teachers and Student Services Teachers in order to select programs and courses that will be both challenging and attainable for each student.

February and March of the Registration Year

1. Nelson McIntyre Student Services Teachers hold meetings to discuss registration, review course options and plan high school paths.
2. Registrations will be completed in the last week of February (after student and parent information meetings).
3. For students outside of our catchment area, the deadline is May 15th. Families are encouraged to get them in earlier to ensure placement.

August of the Registration Year

“School Opening” letters will be emailed to guardians and students in late **August**.

***Any course conflicts, that are a result of timetable restrictions, will be dealt with **through appointments** as detailed in the August letters.

Important Steps for Registration:

- **Step 1** Student Services Teachers will visit classrooms to explain the registration process. Participate in the Grade Level meetings at school to view grade & course requirements and to ask important questions. Review this Course Selection handbook.
- **Step 2** Use My Blueprint to plan your
 - Compulsory Courses
 - Elective Courses
 - Alternative Options Courses
- **Step 3** Attend Registration Day session with Student Services Teachers to register. Attend parent information evenings in February.
- **Step 4** Students will be able to access their schedules on the first day of school in September.

COMPULSORY CREDITS—Grade 10

INTERDISCIPLINARY APPROACH

Students in Grade 10 will study Science, Geography, English Language Arts, and Career Development: Life/Work Planning in an interdisciplinary model similar to grade 9.

ENGLISH 20F

This course develops the six basic strands of English Language Arts (listening, speaking, reading, writing, viewing, and representing). The outcomes require the students to:

- Explore thoughts, ideas, feelings, and experiences
- Comprehend and respond personally and critically to oral, literary, and media texts
- Manage ideas and information
- Enhance clarity and artistry in communication
- Celebrate and build community

GEOGRAPHY 20F

Prerequisite – Can/World 10F

This course focuses on the geographic issues of the contemporary world. It examines the nature of Geography and the skills related to geographical thinking. Geographic issues are explored in several contexts (local, provincial, national, and international).

Topics Include:

Geographic Literacy
Natural Resources
Food from the Land

Industry and Trade
Urban Places

SCIENCE 20F

Prerequisite – Science 10F

The Grade 10 Science curriculum has been designed to develop and emphasize student skills in scientific inquiry while fostering awareness for the nature of science. Science will provide students with many opportunities to explore, analyze, evaluate, synthesize, appreciate, and understand the interrelationships among science, technology, society, and the environment that will affect their personal lives, careers, and their future.

Topics Include:

Lab Safety
Chemistry in Action

Dynamic of Ecosystems
Motion

Weather Dynamics

PHYSICAL EDUCATION AND HEALTH 20F

Prerequisite - Phys Ed 10F

The Physical Education and Health 20F course is an extension of the Grade 9 Physical Education course. In this course students will continue with some of the activities outlined in Grade 9. However, these activities will include a technical aspect that includes a more in depth look at the rules, offensive, and defensive schemes. In addition, students will be involved in refereeing in class games and activities. This class will also focus on living a healthy lifestyle including nutrition and diet, healthy lifestyle planning, goal setting, and decision making.

MATHEMATICS (choice between the following)

Essential Mathematics 20S

Prerequisite – Mathematics 10F

Essential Mathematics (20S) is intended for students whose post-secondary planning does not include a focus on mathematics and science-related fields. Essential Mathematics (20S) is a one credit course. Students are expected to work both individually and in small groups on mathematical concepts and skills encountered in a technological society.

Topics Include:

Analysis of Games and Numbers
Personal Finance
Measurement

Trigonometry
Consumer Decisions
Transformations

Angle Construction
2-D Geometry

Introduction to Applied and Pre-Calculus Mathematics 20S

Prerequisite – Mathematics 10F (Recommended mark of 60%)

Introduction to Applied and Pre-calculus Mathematics (20S) is intended for students considering post-secondary studies that require a math prerequisite. This pathway provides students with the mathematical understanding and critical-thinking skills that have been identified for specific post-secondary programs of study.

The topics studied form the foundation for topics to be studied in both Grade 11 Applied Mathematics and Grade 11 Pre-calculus Mathematics.

Components of the curriculum are both context driven and algebraic in nature. Students will engage in experiments and activities that include the use of technology, problem solving, mental mathematics, and theoretical mathematics to promote the development of mathematical skills. These experiences will provide opportunities for students to make connections between symbolic mathematical ideas and the world around us.

This course is intended for students considering post-secondary study in Sciences (Physics and Chemistry), Engineering, Dentistry and Medicine, Kinesiology, Business, and some trades (among other post-secondary options). Please check with Student Services to verify if this course is necessary for a faculty or study of interest.

Career Development: Life/Work Planning 20F
Or
“WEEKS WITHOUT WALLS”

Students will also be offered opportunities to explore their passions and future careers through a series of “Intensive Theme Weeks”.

“Weeks without Walls” or Intensive Theme Weeks offer students an opportunity to try something new or dive deeper into a subject or topic. These courses often allow students an opportunity to explore the areas of study in a variety of settings with field trips both on and off school grounds. Most courses incorporate outside experts to add real world expertise.

Intensives themes will be offered three times per year and will not interrupt other classes. All grade 10 courses will stop while students participate in these enrichment experiences. The preparation and reflection for these weeks, as well as the “in the field learning” will form a *Lifeworks: Career Exploration* credit. These experiences are designed to help student become exposed to many experiences and career ideas so that as they progress through high school, they will develop a sense of their interests, and potential careers.

Career Exploration is designed to help students develop essential career-building skills that will enable them to be self-reliant and able to construct and manage their life and career. Career Development provides them with the experience of meeting individuals in different careers (tailored specifically to the students in the class) to discover and understand all there is to know about a specific career. Students will develop their own resumes, and practice cover letter writing and interview skills.

Themes will include some from last year plus additional new themes. New themes are in development. Students may participate in any session they have not yet taken:

- Architecture and Landscape Architecture
- Social Action
- Indigenous Culture
- Outdoor Pursuits—Spring and Winter
- Caring for Animals
- Yum: A Taste of the Culinary World
- Backstage: Behind the Scenes of Media and the Arts
- Bike Repair
- One the Sidelines: Behind the Scenes of Sport
- Creating Beats
- Exploring Manitoba through Photography
- How it’s Made: MBs Industries and Trades
- Beyond the ER: Careers in Health
- Graffiti Arts
- The World of Fashion
- Videography
- Robotics
- A journey to the Experimental Lakes
- Job Finding Mission

ELECTIVE CREDITS

Dramatic Arts 25S

The goals of Drama 25S are to promote awareness, to foster development and encourage use of imagination, creativity, self-discipline, self-expression, cooperation, communication, critical analysis, and cultural values. These skills are developed by focusing on elements of drama through exercises in relaxing, energizing, concentrating, practicing movements, performing in group activities, acting out simple story-lines, seeing, listening, speaking, and analyzing scripts and principles of design for the stage. Drama 20S concentrates on awareness of self through exploration of these elements in classroom exercises. This course is designed to be offered in a classroom setting. The aim is not to stage a major drama production but to provide students with an opportunity to explore the varied forms that drama encompasses. Students will be expected to do related readings, research, and homework that include both written assignments and practical exercises in movement, voice, and memorization. Students should also be available to rehearse short pieces outside regular class-time and should choose partners and groups accordingly.

Choral Ensemble 25G/20G

Choral Ensemble offers students of all grades the opportunity to sing in a large ensemble, as well as smaller complimentary groups. No prior vocal experience is required, just a desire to sing! Music selections will vary, and often take into account student interest and consultation. The choir will perform in the annual school winter and/or spring concerts, along with sharing their group vocal talents in the community and may also participate in the local choral festival.

Electronics 25G

Prerequisite – None

Electronics is intended to further student understanding of electronics through a hands-on approach.

Topics Include:

- Understand Electrical Safety
- Solve electrical problems using Ohm's Law and Watt's Law
- Demonstrate knowledge of passive and active components in Parallel and Series circuits
- Construct printed circuit boards
- Use electrical test equipment
- Explore AC DC rectification, regulation, and filters
- Explore semiconductor theory through the study of transistor biasing, switching and amplifications

Entrepreneurship 20F (This course is a full credit)*Prerequisite - None*

Entrepreneurship focuses on developing the foundational skills and ideas needed to plan and develop a business. This course provides an opportunity to be involved in business and entrepreneurial thinking in the real world. Students focus on planning, creating, implementing, evaluating, and growing their own business venture through cafeteria planning and running. This course provides resume building opportunities for students who are interested in the business, hospitality, and culinary arts industries. Gain valuable skills such as collaboration, teamwork, entrepreneurship.... This course will be offered with staggered opportunities throughout the full year with various opportunities in different areas.

Family Studies 25G*Prerequisite – None*

This course focuses on the skills and knowledge parents and caregivers need, with emphasis on maternal health, pregnancy, birth, and the early years of human development. Students will learn about the developmental needs, effective care, and guidance of young children. The development of these skills and knowledge will enhance their overall well-being now as adolescents and in the future as parents and caregivers.

Food and Nutrition 25G*Prerequisite - None*

Students will gain a greater understanding of the 6 essential nutrients that our bodies need and discover the strong link between eating habits and lifelong health and wellness. The highlight of the food and nutrition course is the food labs, which offer a unique opportunity for hands-on application of course material. The recipes chosen are varied, with an emphasis on healthy, whole foods. Students are also given opportunity to create their own recipes.

French 20F (This course is a full credit.)

The Basic French curriculum is designed to encourage the learning of French as a means of communication and to make it an integral part of the student's overall education. Full bilingualism is not a target of the program. A multi-dimensional approach is encouraged, consisting of four components:

1. **EXPERIENCE** – The student will be able to broaden his/her life experience and develop his/her learning and know-how by participating in activities within a variety of fields of experience.
2. **COMMUNICATION** – The student will be able to participate in French in genuine situations of communication related to a variety of fields of experience.
 - The student will be able to understand the meaning of an oral message.
 - The student will be able to express him/herself orally according to the purpose of communication.
 - The student will be able to understand the meaning of different types of texts, authentic and adapted.
3. **CULTURE** – The student will become aware of the culture of his/her community and the francophone cultures as well as those of other people of Canada and the world.
4. **LANGUAGE** – The student will understand and use orally and in writing, the structures and vocabulary related to the fields of experience.

Graphic Arts 25G

Prerequisite – None

Graphic Communications 25G builds upon the introductory knowledge of Graphic Communications 15G. The graphic arts section will incorporate the idea of visual media in our everyday lives. Skills in desktop publishing, including page layout, image manipulation and illustration, will be developed. Black & white photography and darkroom techniques will be developed. Screen-printing using techniques will be performed. Video editing using non-linear editing software on the computer will be introduced.

Guitar 25G/20F

Prerequisite – Guitar 10S or permission from instructor

Students learn to perform on the guitar, both as a soloist and in guitar ensembles. Students develop their music skills in various aspects, learning through a range of musical styles. The course requires students to participate in a group concert performance during the semester.

Music Fees: Students enrolled in the guitar program are required to pay a school division yearly fee of \$40.00 for use of division-owned instruments. (Families-in-need may contact school administration for assistance.)

Media Design (Yearbook: Digital Pictures) 25G

This course provides students with the skills and knowledge necessary to produce high-quality images and visual designs for publication. Students will learn how to design, arrange, and manipulate text and images using common graphic design applications, including image editing and desktop publishing software. Students will assist with designing and publishing the school yearbook, including photography, image editing, page layout, and project management. In addition, students may take a lead role in projects chronicling the school year in other ways, including producing short documentary videos, creating physical photography displays, and publishing a literary journal. This course is for students with a genuine interest in photography, publishing, graphic design, or business.

Power Mechanics 25G

Prerequisite – None

This course is designed to increase the students' awareness and understanding of various automotive practices and processes and to relate their significance to various automotive systems, and to continue the development of safe practices.

Topics Include:

Student Orientation and Safety	Engine Types
Engine Tests and Measurements	Ignition System – Tune Ups
Fuel Systems – Carburetion	Brake System
Steering System	Suspension
Heating and Air Conditioning	Drive Line-Clutch
Gas and Arc Welding	Transmissions

Textile Design and Construction 25G

Prerequisite – None

This course is a student led course in textile design and construction. Students will have the opportunity to design and construct unique and individual textile products using the flat pattern method and/or by altering and making modification to commercial patterns. Students will have an opportunity to develop specific areas of interest.

Visual Art 25S

Prerequisite – Visual Art 10S

This is an introductory art program which will provide the student with numerous and varied learning experiences within the area of visual arts. Students will develop their creative problem-solving skills through the application of the artistic inquiry process, one that encourages informed and thoughtful planning when attempting to solve an artistic problem. Students will become familiar with Canadian art styles as well as international art influences.

Woodworking 25G

Prerequisite - None

This course is focused in the direction of working with processed materials and the design, and safe building of furniture and case work. The study of construction and finishing will be covered. Upon completion of required work students will have the opportunity to build a design of their own.

Additional Credits

Concert Band 20S (Band is offered at lunch time outside of the schedule and may be taken as an additional credit.)

Concert Band is where students play their choice of a woodwind, brass or percussion instrument together in a large instrumental ensemble. Some experience is helpful, but not necessary. The Concert Band plays a wide variety of music, from festival and concert pieces to marches, movie themes, Broadway showstoppers, along with pop, jazz and rock tunes! Students are always welcome to offer music suggestions! There are public performances, such as the Winter and Spring Concerts, along with festival performances and possible band trips. Rehearsals are during the lunch hour on Mondays, Wednesdays and Fridays during the school year; (this benefits students by allowing them more opportunity to take other electives in the regular daily schedule.) Students can choose to bring their own instrument or rent a school-division instrument, just ask the Music Director for details.

Jazz Band 20S (Jazz Band is offered at lunch time outside of the schedule and may be taken as an additional credit.)

Participation in the NMC Jazz Ensemble offers students the opportunity to experience the many different styles of jazz music and develop rhythmic and improvisational skills. The course requires students to participate in a number of group performance opportunities throughout the school year, including the Winter Concert, Optimist Jazz Festival and the Spring Concert.

This course meets in the mornings prior to regular classes on alternating days, for the full school year.

Requirements: Students must be enrolled in Concert Band 10G/20G/30S/40S in order to enroll in the jazz band credit.

Musical Theater 20S

Prerequisite - none

Nelson McIntyre Collegiate offers the participation in the music theatre option for those students with special skills in singing, dancing, and acting. The program's rigorous curriculum includes training in the disciplines of acting, voice, movement and dance and deals with the genre of the epic musical. An option to participate on the production side (crew) is also available to students.

Nelson McIntyre Course Description Booklet Grade 11

Semester System

For Grade 11 and 12s, the school year is divided into two equal semesters. The first semester extends from the beginning of September until approximately the end of January with the second semester extending from February until the end of June.

COMPULSORY CREDITS

INTERDISCIPLINARY APPROACH

Students in Grade 11 will take History and English Language Arts through an interdisciplinary Project-Based Learning model.

English Comprehensive 30S

This course develops the six basic strands of English Language Arts (listening, speaking, reading, writing, viewing, and representing). The outcomes require the students to:

Explore thoughts, ideas, feelings, and experiences

Comprehend and respond personally and critically to oral, literary, and media texts

Manage ideas and information

Enhance clarity and artistry in communication

Celebrate and build community

History 30F

Prerequisite – Geography 20F

The Grade 11 History of Canada curriculum supports citizenship as a core concept and engages students in historical inquiry. Guided by essential questions, students focus on the history of Canada from pre-contact to the present. Through this process students think historically and acquire enduring understandings related to the following five themes in Canadian history.

Topics Include:

First Nations, Métis, and Inuit People
Identity, Diversity, and Citizenship
Governance and Economics

French-English Duality
Canada and the World

PHYSICAL EDUCATION *Students are required to bring appropriate physical education attire (non-marking runners, sweats or shorts, and a T-shirt) and are required to fully participate in all activities. Students are required to maintain a fitness journal to track and reflect upon their progress throughout the semester. Students may also be required to pay a small fee for certain activities.*

Physical Education 30FS - Active Healthy Lifestyles

Prerequisite - Phys Ed 20F

This compulsory full-credit course is designed to help youth take greater ownership of their own physical fitness, to encourage them to seek out activities that interest them, and to engage in active lifestyles into their futures. Students will study topics related to fitness management, mental health, substance use and abuse prevention, and the social impact of sport. The focus of this content will be on health and personal planning. Students will also be introduced to safety and risk management planning. Students will be graded for completion of the course with a CO (complete) or IN (incomplete) designation.

Career Development: Life/Work Building 30S
Or
“WEEKS WITHOUT WALLS”

Students will also be offered opportunities to explore their passions and future careers through a series of “Intensive Theme Weeks”.

“Weeks without Walls” or Intensive Theme Weeks offer students an opportunity to try something new or dive deeper into a subject or topic. These courses often allow students an opportunity to explore the areas of study in a variety of settings with field trips both on and off school grounds. Most courses incorporate outside experts to add real world expertise.

Intensives themes will be offered three times per year and will not interrupt other classes. All grade 11 courses will stop while students participate in these enrichment experiences. These experiences are designed to help student become exposed to many experiences and career ideas so that as they progress through high school, they will develop a sense of their interests, and potential careers. Opportunities for Job Shadowing form part of this course.

Career Exploration is designed to help students develop essential career-building skills that will enable them to be self-reliant and able to construct and manage their life and career. Career Development provides them with the experience of meeting individuals in different careers (tailored specifically to the students in the class) to discover and understand all there is to know about a specific career.

Themes will include job shadowing opportunities, as well Financial Literacy, Scholarship Writing, opportunities for Design Competitions and projects, connections with the volunteer and community service and many others.

GRADE 11 MANITOBA MATHEMATICS CURRICULA

Pre-Calculus Mathematics	Applied Mathematics	Essential Mathematics
Designed for students that are planning to take university calculus in such fields as Engineering, Medicine, and Pharmacy.	Designed for students that are planning to take basic post-secondary Math and Science or are entering the world of high technology work. i.e. Education, Nursing, Biology.	Designed for students that are not planning to take post-secondary math or science. Entrance into university in certain faculties is still allowed.
Prerequisite is Grade 10 Introduction to Applied & Pre-Calculus Math. A mark of 65% is recommended.	Prerequisite is Grade 10 Introduction to Applied & Pre-Calculus Math. A mark of 65% is recommended.	Prerequisite is Grade 10 Essential Math.
Technology: Scientific calculators only (limited calculator use).	Technology: Will use T1-83plus, T1-84 graphing calculators extensively, and computer spreadsheets.	Technology: Will use scientific calculators and spreadsheets.
Algebra: Very extensively used. Much time is spent at solving equations and other algebraic expressions.	Algebra: Students write algebraic equations based on experiments and written problems and using graphing calculators and computer programs to solve the problem.	Algebra: Limited use in Essentials math.
Measurement Applications: Do not use calipers and micrometers.	Measurement Applications: Learn practical application of calipers, rulers and micrometers. Students will complete a design and measurement project.	Measurement Applications: Learn practical application of calipers, rulers and micrometers. Students will complete a design and measurement project.
Learning Style: Students tend to work closely under the guidance of the teacher to learn the concepts and are expected to complete daily assignments. Extensive testing occurs.	Learning Style: Independent work as well as group work. Students are expected to take increased responsibility for their own learning.	Learning Style: Independent work and group work using knowledge and transforming it into real life applications.

Essential Mathematics 30S

Prerequisite – Essential Mathematics 20S

Essential Mathematics 30S is intended for students whose post-secondary planning does not include a focus on mathematics and science-related fields. Essential Mathematics 30S is a one credit course. Students are expected to work both individually and in small groups on mathematical concepts and skills encountered in a technological society.

Topics Include:

Analysis of Games and Numbers
Interest and Credit
3-D Geometry
Statistics

Managing Money
Relations and Patterns
Trigonometry
Design Modeling

Pre-Calculus Mathematics 30S

Prerequisite – Introduction to Applied and Pre-Calculus 20S

Grade 11 Pre-Calculus Mathematics (30S) is designed for students who intend to study calculus and related mathematics as part of post-secondary education. Students enrolled in this course should have completed Grade 10 Introduction to Applied and Pre-Calculus with a minimum mark of 65%. This course comprises a high level of theoretical mathematics with an emphasis on factoring and problem solving. Daily homework is the norm. Students should be able to work independently and handle problems different from those presented in class.

Topics Include:

Relations and Functions
(Quadratic Equations)
Equation Systems
Inequalities
Reciprocal Functions.

Algebra and Number (absolute value radicals,
rational expressions)
Trigonometry
Polynomials

Pick Your Path

Students in Grade 11 can choose three different paths to complete their electives:

1. Independent Electives (3 credits)
2. Propel—Project Pursuit and Exploration Learning (an interdisciplinary approach—3 credits)
3. ATC—Louis Riel Arts and Technology Centre (4 credits)

INDEPENDENT ELECTIVE CREDITS

French 30S

The Basic French curriculum is designed to encourage the learning of French as a means of communication and to make it an integral part of the student's overall education. Full bilingualism is not a target of the program.

A multi-dimensional approach is encouraged, consisting of four components:

- **EXPERIENCE** – The student will be able to broaden his/her life experience and develop his/her learning and know-how by participating in activities within a variety of fields of experience.
- **COMMUNICATION** – The student will be able to participate in French in genuine situations of communication related to a variety of fields of experience.
- **CULTURE** – The student will become aware of the culture of his/her community and the francophone cultures as well as those of other people of Canada and the world.
- **LANGUAGE** – The student will understand and use orally and in writing, the structures and vocabulary related to the fields of experience.

THE SCIENCES

Topics in Science 30S

In the first part of the course, students will be guided through a series of activities and investigations in order to develop their own answers to

- What are the 'rules of science' and how is science different than technology?
- How do issues in science and technology relate to society, personal health and the environment?
- What essential concepts cut across and are common to multiple science disciplines?

In the second part of the course, students will develop an in-depth inquiry of a current topic in science by choosing from a suggested list or pursuing an individualized area of interest.

Biology 30S

Prerequisite – Science 20F

Students in Biology 30S will study the Human Body with respect to homeostasis, digestion and nutrition, the respiratory system, excretion and waste management, and concluding with the immune and nervous system.

Topics Include:

Wellness and Homeostasis	Blood and Immunity
Digestion and Nutrition	Excretion
Control Mechanisms	Gas Exchange
Circulation	

Chemistry 30S

Prerequisite – Science 20F

Introduction to Applied & Pre-Calculus math is highly recommended if students are choosing this course. Chemistry 30S introduces students to the basic concepts in Chemistry. It serves to develop their mathematical problem solving and laboratory skills. Students enrolled in this course should attain a level of scientific awareness and develop positive attitudes towards science.

Topics Include:

Scientific Investigation	Stoichiometry
Molecular Weights	Organic Chemistry
Moles	Kinetic Molecular Theory
Molar Volume	Percent Composition
Density	Empirical Formula
Naming of Compounds	Gases and Pressure
Balancing Equations	Volume and Temperature
Precipitation	Ionic Equations

Computational Physics

Prerequisite: Science 20F

Physics 30S (1.0 Credits) and Animation - 2D 35S (0.5 Credits)

Introduction to Applied & Pre-Calculus math is highly recommended.

Computational Physics offers an interdisciplinary approach to learning Physics through coding and learning to code by doing Physics. Students earn credits in both Physics 30S (1.0 credits) and Animation – 2D (0.5 credits).

Rather than learn *about* science, you will learn how to *do* science. While working collaboratively in groups and using computers equipped with sensors, you will learn how to collect, organize, visualize and model real data. At each step along the way we will build conceptual models involving motion, forces and energy.

One of the fastest growing programming languages these days is python. You will be learning to code in Visual Python (VPython for short), designed specifically for learning physics. The environment takes care of all the beautiful 3D lighting and objects, letting you focus on the laws of physics directly.

Reasons to take Computational Physics:

- Procedural thinking - the type of thinking you need to cook a delicious meal or take apart and reassemble a car engine - is a transferable skill. In other words, as you get good at computational thinking, you'll get better at: organizing and writing an essay, learning math and studying politics. Just as learning to read and write helps you with everything, procedural thinking is more of a literacy than a subject.
- In coding, you make mistakes constantly and have to sort them out. This builds resilience to repeated failure, a useful life skill. Even the most proficient coders in the world spend a lot of time debugging
- Physics is all about model building. In a computer, you get to make worlds that obey your rules. This is a powerful way of thinking about the world. The desire to build more and more accurate models on the computer mimics our desire as physicists to build more and more accurate models of the universe.

By taking Computational Physics you will learn more than simply how the universe works—you will develop ways of analyzing problems, finding patterns and developing models that explain, illuminate and problem solve.

Drama

Dramatic Arts (1A) DA30S

Prerequisite – Drama 20S/30S

This course is a continuation of the 20S course currently being offered. Students in both the 30S and 40S class will be taught together. Students enrolled in Drama 30S will be involved in directing assignments, and 40S students will be issued directing and script writing assignments.

Musical Theater (3A) 30S (1 credit)

Prerequisite - none

Nelson McIntyre Collegiate offers the participation in the music theatre option for those students with special skills in singing, dancing, and acting. The program's rigorous curriculum includes training in the disciplines of acting, voice, movement and dance and deals with the genre of the epic musical. An option to participate on the production side (crew) is also available to students.

Entrepreneurship

Venture Development 30S

Venture Development builds upon the concepts and ideas studied in Entrepreneurship (0319). Students focus on planning, creating, implementing, evaluating, and growing their own business venture. Venture Development is designed for students interested in starting their own business and in furthering their knowledge of business ownership and management principles.

This course provides an opportunity to be involved in business and entrepreneurial thinking in the real world. Students focus on planning, creating, implementing, evaluating, and growing their own business venture through cafeteria planning and running. This course provides resume building opportunities for students who are interested in the business, hospitality, and culinary arts industries. Gain valuable skills such as collaboration, teamwork, entrepreneurship. This course will be offered with staggered opportunities throughout the full year with various opportunities in different areas.

Music

Choral Ensemble 30S

Choral Ensemble offers students of all grades the opportunity to sing in a large ensemble, as well as smaller complimentary groups. No prior vocal experience is required, just a desire to sing! Music selections will vary, and often take into account student interest and consultation. The choir will perform in the annual school winter and/or spring concerts, along with sharing their group vocal talents in the community and may also participate in the local choral festival.

Concert Band 30S (Band is offered at lunch time outside of the schedule and may be taken as an additional credit.)

Concert Band is where students play their choice of a woodwind, brass or percussion instrument together in a large instrumental ensemble. Some experience is helpful, but not necessary. The Concert Band plays a wide variety of music, from festival and concert pieces to marches, movie themes, Broadway showstoppers, along with pop, jazz and rock tunes! Students are always welcome to offer music suggestions! There are public performances, such as the Winter and Spring Concerts, along with festival performances and possible band trips. Rehearsals are during the lunch hour on Mondays, Wednesdays and Fridays during the school year; (this benefits students by allowing them more opportunity to take other electives in the regular daily schedule.) Students can choose to bring their own instrument or rent a school-division instrument, just ask the Music Director for details.

Jazz Band 30S (Jazz Band is offered at lunch time outside of the schedule and may be taken as an additional credit.)

Participation in the NMC Jazz Ensemble offers students the opportunity to experience the many different styles of jazz music and develop rhythmic and improvisational skills. The course requires students to participate in a number of group performance opportunities throughout the school year, including the Winter Concert, Optimist Jazz Festival and the Spring Concert.

This course meets in the mornings prior to regular classes on alternating days, for the full school year.

Requirements: Students must be enrolled in Concert Band 10G/20G/30S/40S in order to enroll in the jazz band credit.

Guitar 30S

Prerequisite – Guitar 20S or permission from instructor

Students learn to perform on the guitar, both as a soloist and in guitar ensembles. Students develop their music skills in various aspects, learning through a range of musical styles. The course requires students to participate in a group concert performance during the semester.

Music Fees: Students enrolled in the guitar program are required to pay a school division yearly fee of \$40.00 for use of division-owned instruments. (Families-in-need may contact school administration for assistance.)

VISUAL ARTS

Media Design (Yearbook: Desktop Publishing) 35G

This course provides students with the skills and knowledge necessary to produce high-quality images and visual designs for publication. Students will learn how to design, arrange, and manipulate text and images using common graphic design applications, including image editing and desktop publishing software. Students will assist with designing and publishing the school yearbook, including photography, image editing, page layout, and project management. In addition, students may take a lead role in projects chronicling the school year in other ways, including producing short documentary videos, creating physical photography displays, and publishing a literary journal. This course is for students with a genuine interest in photography, publishing, graphic design, or business.

Visual Art (1A) VA30S

Prerequisite – Visual Art 20S

The 30S program will focus on the development of studio and portfolio practice. A keen interest in the practice of art-making is assumed and the intent is to prepare students for post-secondary level art programs. Students are expected to be self-directed in their development as an artist.

Through artist's talks, gallery visits, class work and studio practice, students may expect to develop a strong body of artwork. The emphasis will be on the pursuit of art preferences and the facilitation of skill development in these areas.

HUMAN ECOLOGY

Family Studies 30S

Prerequisite – None

Why do children behave as they do? This course is a study of the growth and development of children, with emphasis on preschoolers. Classroom learning includes research and media information relating to topics and issues such as child abuse, language development, learning challenges, gender stereotyping, emotional loss, street proofing, children's play, television and Internet predators.

Textile Design and Construction 30S

Prerequisite – None

This course is a student led course in textile design and construction. Students will have the opportunity to design and construct unique and individual textile products using the flat pattern method and/or by altering and making modification to commercial patterns. In addition, students will be looking at the global effects of their clothing and textile choices with a focus on upcycling and altered couture.

Food and Nutrition 30S

Prerequisite - None

This course promotes the development of personal health by exploring the psychology of food choices and provides the opportunity for self-assessment of eating habits. Current food trends are explored and analyzed as well as diet related concerns such as fad diets and sports nutrition. We celebrate cultural diversity by examining the culinary regions of Canada and focus on the food industry unique to Manitoba. The highlight of food and nutrition courses is the food labs, which offer a unique opportunity for hands-on application of course material. We create a wide variety of healthy dishes which challenge students' abilities and expand their repertoire.

INDUSTRIAL ARTS

Electronics 30G

Prerequisite – None

Topics Include:

Electronics 30G is designed to further student understanding of electronics and electricity. This course offers theoretical and hands-on learning experiences. Emphasis is placed on those areas of industry, which show dynamic growth such as digital circuits and computer assisted design.

Topics Include:

Digital electronics, integrated circuits, logic, clocks, timers, counting circuits.

Residential wiring practice

Computer assisted design and testing.

Projects include: Sound activated switch, directional microphone

Graphic Arts 30G

Prerequisite – None

Graphic Communications 30G builds upon the knowledge of Graphic Communications 20G. *The graphic arts section will continue with the graphics sells theme.* Black & white photography will be continued. Photo manipulation and illustration software will be used to create graphics for multi-colored screen-printing and page-layout projects. The images may also be incorporated into multi-media projects such as web sites, video production, and computer animation.

Power Mechanics 30S

Prerequisite – None

This course is designed to increase the student's awareness and understanding of various automotive practices and processes. To enable the student to perform various repairs and maintenance functions on various automotive systems and to continue the development of safe practices.

Topics Includes:

Student Orientation and Safety

Automatic Transmissions

Emission Controls

Heating and Air Conditioning

Electrical Systems

Exhaust Systems

Engine Rebuilding

Arc and Gas Welding

Woodworking 30G

Prerequisite – None

This full credit course will allow students to work towards their area of interest inside this discipline. The course will cover advanced techniques in frame and panel construction, case construction, problem solving, advanced power tools, wood joinery, five-piece door construction, finishing, and guitar building is an option with shared costs with the students.

THE HUMANITIES

Current Topics in First Nations, Métis and Inuit Studies 40S: *Offered 2020-2021 (every other year) for Grade 11 and 12 students*

Prerequisites - None

AS40S is a multi-disciplinary course that allows students to explore and develop skills and concepts in the Arts, ELA, Geography, History, Social Studies, and Law. This course focuses on current issues that face Canada and our aboriginal citizens in recent and current history. Our text is *First Nations, Inuit, and Métis Peoples: Exploring Their Past, Present, and Future*.

Psychology 40S *Offered 2021-2022 (every other year) for Grade 11 and 12 students*

Prerequisite - None

The objectives of this course are to encourage student self-reliance in pursuing educational goals. In this case, the goals are the study of human behavior (both normal and abnormal) from biological, psychological, and social perspectives.

Topics Include:

Learning and Conditioning
Social and Cultural Behaviors
Thinking and Intelligence
Sensation and Perception
Memory

Human Sexuality
Health and Coping
Psychological Disorders
Personality Theory
Emotion

PROPEL—PROJECT PURSUIT & EXPLORATION LEARNING (GR. 11)

Propel is an interdisciplinary, project-based learning environment where students earn 3-4 credits while pursuing an individualized area of interest. The program takes place for one semester at Nelson McIntyre Collegiate and incorporates the following credits:

- Transactional English 30S
- Information and Communication Technology (ICT) 30S
- 1-2 other possible credit depending on the topic and depth of study
- Phys. Ed. is the preferred compulsory course to take with Propel.

Through the Propel Program, students will get

- Flexibility in work hours—there is no set schedule of classes as the work is interdisciplinary
- Creative work spaces—we'll find spaces on and off campus along with professional project mentors to assist in the project
- Individualized self-directed learning, developing time-management and project management skills along the way.

Propel approaches learning through a 21st Century lens; it provides a strong foundation in literacy and deeper learning while also preparing students to

- Think critically and pursue in-depth inquiry
- Exercise choice while holding themselves accountable
- Problem solve creatively
- Build partnerships and collaborate with others
- Gain meaningful employment and/or make connections in the professional world
- Succeed in post-secondary education

Nelson McIntyre Course Description Booklet Grade 12

Semester System

The Nelson McIntyre Collegiate school year is divided into two equal semesters. The first semester extends from the beginning of September until approximately the end of January with the second semester extending from February until the end of June.

COMPULSORY CREDITS

INTERDISCIPLINARY APPROACH

Students in Grade 12 will take Global Issues or (Interdisciplinary) Topics in Science and English Language Arts through an interdisciplinary Project-Based Learning model.

English Comprehensive 40S

This course develops the six basic strands of English Language Arts (listening, speaking, reading, writing, viewing, and representing). The outcomes require the students to:

- Explore thoughts, ideas, feelings, and experiences
- Comprehend and respond personally and critically to oral, literary, and media texts
- Manage ideas and information
- Enhance clarity and artistry in communication
- Celebrate and build community

This course has a provincial standards exam.

Global Issues 40S

Global Issues examines human societies and the complex interactions among human beings living together in a shared world. This course provides a lens of ecological literacy through which students can study and understand the complex and often critical global issues that societies face today. Through this lens, students:

- apply concepts related to sustainability
- learn about the interdependence of environmental, social, political, and economic systems
- develop competencies for thinking and acting as ecologically literate citizens committed to social justice

Interdisciplinary Topics in Science (40S)

This course is designed to provide information to expose Manitoba students to the complexity of issues associated with Lake Winnipeg and, through science investigations and problem-based approaches to learning, to encourage students to develop decision-making skills associated with the ecological and social dynamics of the Lake Winnipeg environment.

- [Essential Question 1: Why Should We Care About Lake Winnipeg?](#) (815 KB)
- [Essential Question 2: How Does the Lake Winnipeg Watershed Affect Our Ability to Take Care of the Lake?](#) (2.87 MB)
- [Essential Question 3: How are Social and Economic Activities Affecting the Health of Lake Winnipeg?](#) (594 KB)
- [Essential Question 4: How Does Knowing the Water Chemistry Help Improve Our Ability to Care for Lake Winnipeg?](#) (719 KB)
- [Essential Question 5: How Can Biotic Parameters Indicate the Health of Lake Winnipeg?](#)

English 40S - English as an Additional Language for Academic Success

This course is designed for advanced-level English as Additional Language (EAL) students who wish to further develop their academic English language skills required for success in Senior Years and post-secondary education. Advanced EAL students who have studied English as a second language will benefit from integrated ELA/EAL courses, which reinforce and build proficiency in a range of language knowledge and skills required across the Senior Years curriculum and areas of post-secondary study. This course will help ensure success for advanced EAL learners in grade 12 across a number of subject areas, with emphasis on the sciences, mathematics, and social sciences, as well as help students prepare for post-secondary education.

Topics Include:

Grammar Practice	Practice Pronunciation	Linguistic Structures	Listening Skills
Vocabulary Study	Subject-Based Vocabulary	Discussion	Short Speeches
Interpreting and Producing Subject-Area Text		Opportunity to use Relevant Vocabulary	

PHYSICAL EDUCATION *Students are required to bring appropriate physical education attire (non-marking runners, sweats or shorts, and a T-shirt) and are required to fully participate in all activities. Students are required to maintain a fitness journal to track and reflect upon their progress throughout the semester. Students may also be required to pay a small fee for certain activities.*

Physical Education 40FS - Active Healthy Lifestyles

Prerequisite Phys. Ed 30FS

This compulsory full-credit course is designed to help youth take greater ownership of their own physical fitness, to encourage them to seek out activities that interest them, and to engage in active lifestyles into their futures. Students will study topics related to fitness management, nutrition, social/emotional health, and personal development. The focus of this content will be on health and personal planning. Students will also be introduced to safety and risk management. As part of earning a credit for this course, students will be required to submit a personal fitness

portfolio containing elements such as a fitness plan, physical activity log, or journal entries. Students will be graded for completion of the course with a CO (complete) or IN (incomplete) designation.

Career Development: Life/Work Transitioning 40S

Or

“WEEKS WITHOUT WALLS”

Students will also be offered opportunities to explore their passions and future careers through a series of “Intensive Theme Weeks”.

“Weeks without Walls” or Intensive Theme Weeks offer students an opportunity to try something new or dive deeper into a subject or topic. These courses often allow students an opportunity to explore the areas of study in a variety of settings with field trips both on and off school grounds. Most courses incorporate outside experts to add real world expertise.

Intensives themes will be offered three times per year and will not interrupt other classes. All grade 11 courses will stop while students participate in these enrichment experiences. These experiences are designed to help student become exposed to many experiences and career ideas so that as they progress through high school, they will develop a sense of their interests, and potential careers. Opportunities for Job Shadowing form part of this course.

Career Exploration is designed to help students develop essential career-building skills that will enable them to be self-reliant and able to construct and manage their life and career. Career Development provides them with the experience of meeting individuals in different careers (tailored specifically to the students in the class) to discover and understand all there is to know about a specific career.

Themes will include job shadowing opportunities, as well Financial Literacy, Scholarship Writing, opportunities for Design Competitions and projects, connections with the volunteer and community service and many others.

GRADE 12 MANITOBA MATHEMATICS CURRICULA

Pre-Calculus Mathematics	Applied Mathematics	Essential Mathematics
Designed for students that are planning to take university calculus in such fields as Engineering, Medicine, and Pharmacy.	Designed for students that are planning to take basic post-secondary Math and Science or are entering the world of high technology work. i.e. Education, Nursing, Biology.	Designed for students that are not planning to take post-secondary math or science. Entrance into university in certain faculties is still allowed.
Prerequisite is Grade 10 Introduction to Applied & Pre-Calculus Math. A mark of 65% is recommended.	Prerequisite is Grade 10 Introduction to Applied & Pre-Calculus Math. A mark of 65% is recommended.	Prerequisite is Grade 10 Essential Math.
Technology: Scientific calculators only (limited calculator use).	Technology: Will use T1-83plus, T1-84 graphing calculators extensively, and computer spreadsheets.	Technology: Will use scientific calculators and spreadsheets.
Algebra: Very extensively used. Much time is spent at solving equations and other algebraic expressions.	Algebra: Students write algebraic equations based on experiments and written problems and using graphing calculators and computer programs to solve the problem.	Algebra: Limited use in Essentials math.
Measurement Applications: Do not use calipers and micrometers.	Measurement Applications: Learn practical application of calipers, rulers and micrometers. Students will complete a design and measurement project.	Measurement Applications: Learn practical application of calipers, rulers and micrometers. Students will complete a design and measurement project.
Learning Style: Students tend to work closely under the guidance of the teacher to learn the concepts and are expected to complete daily assignments. Extensive testing occurs.	Learning Style: Independent work as well as group work. Students are expected to take increased responsibility for their own learning.	Learning Style: Independent work and group work using knowledge and transforming it into real life applications.

Essential Mathematics 40S

Prerequisite – Essentials Math 30S

This course should be taken by students who have:

Completed Essentials Mathematics in Grade 11 **or** Completed Pre-Calculus Math 30S and/or Applied Mathematics 30S.

This course is intended for students whose post-secondary planning does not include a focus on mathematics and science-related fields. Grade 12 Essential Mathematics (40S) is a course that intends to assist students to understand the impact that mathematics and its applications have made on society and how this influences their own lives. Assessment will include a **portfolio**, which may be provincially evaluated. There will be a provincial exam written in this course.

Topics Include:

Analysis of Games and Numbers
Income and Debt
Personal Finance

Life/Career Project
Investments
Government Finances

Taxation
Variation and Formulas

Applied Mathematics 40S

Prerequisite – Pre-Calculus 30S

The goals of Grade 12 Applied Mathematics are to ensure that students:

- Investigate mathematical situations and present results using mathematical language
- Solve problems using a variety of techniques, including technology, and communicate solutions in oral and written forms.

Topics Include:

Matrices
Vectors
Personal Finance

Statistical Analysis
Design and Measurement
Probability

Sequences
Periodic Functions

It is required that each student either own or purchase a TI-83 Plus or TI-84 calculator for this course. There will be a provincial exam written in this course and is worth 30% of the final grade.

Pre-Calculus Mathematics 40S

Prerequisite – Pre-Calculus Mathematics 30S

Students who take this course should have completed Pre-Calculus Math 30S with a mark of at least 65%. This course is designed for students with a high level of Math skills. Students must be able to handle abstract concepts and be analytical thinkers. Course material is covered fairly quickly, and daily homework is the norm. Students, therefore, must be able to work independently. A provincial exam is written upon completion of the course. This course is essential for students pursuing a career in Engineering, Pharmacy, Agriculture, or Business.

Topics Include:

Circular Functions
Transformations

Permutations and Combinations
Conics

Geometric Sequences
Exponents and Logarithm

Probability
Trigonometric Identities

Pick Your Path

Students in Grade 12 can choose three different paths to complete their electives:

1. Independent Electives (3 credits)
2. Propel—Project Pursuit and Exploration Learning (an interdisciplinary approach—3 credits—these are compulsory. Independent Electives would be added to this combination)
3. ATC—Louis Riel Arts and Technology Centre (4 credits)

PROPEL—PROJECT PURSUIT & EXPLORATION LEARNING (GR. 12)

Propel is an interdisciplinary, project-based learning environment where students earn 3-4 credits while pursuing an individualized area of interest. The program takes place for one semester at Nelson McIntyre Collegiate and incorporates the following credits:

- Transactional English 40S
- Global Issues 40S
- 1-2 other possible credit depending on the topic and depth of study
- Physical Education 40F is the preferred required course to take with Propel.

Through the Propel Program, students will get:

- Flexibility in work hours—there is no set schedule of classes as the work is interdisciplinary
- Creative work spaces—we'll find spaces on and off campus along with professional project mentors to assist in the project
- Individualized self-directed learning, developing time-management and project management skills along the way.

Propel approaches learning through a 21st Century lens; it provides a strong foundation in literacy and deeper learning while also preparing students to:

- Think critically and pursue in-depth inquiry
- Exercise choice while holding themselves accountable
- Problem solve creatively
- Build partnerships and collaborate with others
- Gain meaningful employment and/or make connections in the professional world
- Succeed in post-secondary education

INDEPENDENT ELECTIVE CREDITS

French 40S

The Basic French curriculum is designed to encourage the learning of French as a means of communication and to make it an integral part of the student's overall education. Full bilingualism is not a target of the program.

A multi-dimensional approach is encouraged, consisting of four components:

1. **EXPERIENCE** – The student will be able to broaden his/her life experience and develop his/her learning and know-how by participating in activities within a variety of fields of experience.
2. **COMMUNICATION** – The student will be able to participate in French in genuine situations of communication related to a variety of fields of experience.
 - The student will be able to understand the meaning of an oral message.
 - The student will be able to express him/herself orally according to the purpose of communication.
 - The student will be able to understand the meaning of different types of texts, authentic and adapted.
3. **CULTURE** – The student will become aware of the culture of his/her community and the francophone cultures as well as those of other people of Canada and the world.
4. **LANGUAGE** – The student will understand and use orally and in writing, the structures and vocabulary related to the fields of experience.

Business Management 40S

Business Management focuses on developing skills in planning, leading, organizing, controlling, and staffing. Students will study various management styles and participate in activities related to human resources, inventory, finance, and project management. This course is designed for students interested in furthering their knowledge of management strategies used in various settings and furthering their knowledge of business ownership.

This course provides an opportunity to be involved in business an entrepreneurial thinking in the real world. Students focus on planning, creating, implementing, evaluating, and growing their own business venture through cafeteria planning and running. This course provides resume building opportunities for students who are interested in the business, hospitality, and culinary arts industries. Gain valuable skills such as collaboration, teamwork, entrepreneurship. This course will be offered with staggered opportunities throughout the full year with various opportunities in different areas.

THE SCIENCES

Biology 40S

Prerequisite – Science 20F

Students will master key biological concepts, principles and ideas. Students will develop an understanding and appreciation of the nature of science, methods of scientific inquiry, diversity of life, interrelations existing between organisms, the effects technology has on the advancements in biological science and the resulting effects on society. They will also develop an understanding and appreciation of the relevance of biology as an integral part of their everyday lives. Students will also develop an understanding and appreciation of the place of humans in nature and the effects that humans have on their environment.

Topics Include:

Genetics Biodiversity Ecology

Chemistry 40S

Prerequisite – Chemistry 30S

Students who choose this course should have completed Chemistry 30S, and Math Pre-Calculus 30S or Applied Math 30S is also highly recommended. This course will provide students with mathematical, theory, and laboratory experiences in Chemistry. It will develop critical thinking and problem-solving skills as well as an understanding of the process of science. Students should attain a scientific awareness that is essential for all citizens. This course is essential if entering the faculty of engineering, pharmacy, or those students who wish to enter science.

Topics Include:

Reaction Kinetics	PH, Hydrolysis, Acid/Base Reactions and Titration
Chemical Equilibrium	Oxidation-Reduction Reactions
Solutions-Ionic & Molecular	KSP & Solubility
Atomic Structure	Periodic Trends
Electrochemical Cells	Electrolytic Cells

Computational Physics

Physics 40S (1.0 Credits) and Animation - 2D 35S (0.5 Credits)

Prerequisite: Physics 30S

Pre-Calculus math is highly recommended.

Computational Physics offers an interdisciplinary approach to learning Physics through coding and learning to code by doing Physics. Students earn credits in both Physics 40S (1.0 credits) and Animation – 2D (0.5 credits).

Rather than learn *about* science, you will learn how to *do* science. While working collaboratively in groups and using computers equipped with sensors, you will learn how to collect, organize, visualize and model real data. At each step along the way we will build conceptual models involving motion, forces and energy.

One of the fastest growing programming languages these days is python. You will be learning to code in Visual Python (VPython for short), designed specifically for learning physics. The environment takes care of all the beautiful 3D lighting and objects, letting you focus on the laws of physics directly.

Reasons to take Computational Physics:

- Procedural thinking - the type of thinking you need to cook a delicious meal or take apart and reassemble a car engine - is a transferable skill. In other words, as you get good at computational thinking, you'll get better at: organizing and writing an essay, learning math and studying politics. Just as learning to read and write helps you with everything, procedural thinking is more of a literacy than a subject.
- In coding, you make mistakes constantly and have to sort them out. This builds resilience to repeated failure, a useful life skill. Even the most proficient coders in the world spend a lot of time debugging
- Physics is all about model building. In a computer, you get to make worlds that obey your rules. This is a powerful way of thinking about the world. The desire to build more and more accurate models on the computer mimics our desire as physicists to build more and more accurate models of the universe.

By taking Computational Physics you will learn more than simply how the universe works—you will develop ways of analyzing problems, finding patterns and developing models that explain, illuminate and problem solve.

Drama

Dramatic Arts DA40S

Prerequisite – Drama 20S/30S

This course is a continuation of the 20S course currently being offered. Students in both the 30S and 40S class will be taught together. Students enrolled in Drama 30S will be involved in directing assignments, and 40S students will be issued directing and script writing assignments.

Musical Theater 40S

Prerequisite - none

Nelson McIntyre Collegiate offers the participation in the music theatre option for those students with special skills in singing, dancing, and acting. The program's rigorous curriculum includes training in the disciplines of acting, voice, movement and dance and deals with the genre of the epic musical. An option to participate on the production side (crew) is also available to students.

Music

Choral Ensemble 40S

Choral Ensemble offers students of all grades the opportunity to sing in a large ensemble, as well as smaller complimentary groups. No prior vocal experience is required, just a desire to sing! Music selections will vary, and often take into account student interest and consultation. The choir will perform in the annual school winter and/or spring concerts, along with sharing their group vocal talents in the community and may also participate in the local choral festival.

Concert Band 40S (Band is offered at lunch time outside of the schedule and may be taken as an additional credit.)

Concert Band is where students play their choice of a woodwind, brass or percussion instrument together in a large instrumental ensemble. Some experience is helpful, but not necessary. The Concert Band plays a wide variety of music, from festival and concert pieces to marches, movie themes,

Broadway showstoppers, along with pop, jazz and rock tunes! Students are always welcome to offer music suggestions! There are public performances, such as the Winter and Spring Concerts, along with festival performances and possible band trips. Rehearsals are during the lunch hour on Mondays, Wednesdays and Fridays during the school year; (this benefits students by allowing them more opportunity to take other electives in the regular daily schedule.) Students can choose to bring their own instrument or rent a school-division instrument, just ask the Music Director for details.

Jazz Band 40S (Jazz Band is offered at lunch time outside of the schedule and may be taken as an additional credit.)

Participation in the NMC Jazz Ensemble offers students the opportunity to experience the many different styles of jazz music and develop rhythmic and improvisational skills. The course requires students to participate in a number of group performance opportunities throughout the school year, including the Winter Concert, Optimist Jazz Festival and the Spring Concert.

This course meets in the mornings prior to regular classes on alternating days, for the full school year.

Requirements: Students must be enrolled in Concert Band 10G/20G/30S/40S in order to enroll in the jazz band credit.

Guitar GU40S

Prerequisite – Guitar 10S or permission from instructor

Students learn to perform on the guitar, both as a soloist and in guitar ensembles. Students develop their music skills in various aspects, learning through a range of musical styles. The course requires students to participate in a group concert performance during the semester.

Music Fees: Students enrolled in the guitar program are required to pay a school division yearly fee of \$40.00 for use of division-owned instruments. (Families-in-need may contact school administration for assistance.)

VISUAL ARTS

Media Design (Yearbook: Desktop Publishing) 35G

This course provides students with the skills and knowledge necessary to produce high-quality images and visual designs for publication. Students will learn how to design, arrange, and manipulate text and images using common graphic design applications, including image editing and desktop publishing software. Students will assist with designing and publishing the school yearbook, including photography, image editing, page layout, and project management. In addition, students may take a lead role in projects chronicling the school year in other ways, including producing short documentary videos, creating physical photography displays, and publishing a literary journal. This course is for students with a genuine interest in photography, publishing, graphic design, or business.

Visual Art (1A) VA40S

Prerequisite – Visual Art 30S

The 40S program will focus on the development of studio and portfolio practice. A keen interest in the practice of art-making is assumed and the intent is to prepare students for post-secondary level art programs. Students are expected to be self-directed in their development as an artist.

Through artist's talks, gallery visits, class work and studio practice, students may expect to develop a strong body of artwork. The emphasis will be on the pursuit of art preferences and the facilitation of skill development in these areas.

HUMAN ECOLOGY

Family Studies 40S (Relationships and Personal Development)

Prerequisite - None

This level of Family Studies focuses on issues of personal development relevant to every individual – self-esteem, personality, value systems, making career and marriage decisions, dealing with stress and conflict, coping with divorce, and facing old age with foresight and optimism. Students will gain insight into how individuals behave the way they do - a course that makes you grow as an individual.

Food and Nutrition 40S

Prerequisite - None

Students are challenged with the current issues of hunger, both locally and globally and study the global food supply. That leads into the study of international foods and research on a country of choice kicks off the presentation of "Food Folklorama". We explore the latest in food technology: irradiated foods; genetically modified foods and organic food. Finally, concentrate on developing life skills by planning nutritious meals within a limited budget. The focus in the food labs is more experimental and challenging but will also be practical to offer a healthy repertoire of recipes for future independent living.

Textile Design and Construction 40S

Prerequisite - None

This course is a student led course in textile design and construction. Students will have the opportunity to design and construct unique and individual textile products using the flat pattern method and/or by altering and making modification to commercial patterns. Students will explore the workings of the textile industry and explore marketability in relationship to project development.

INDUSTRIAL ARTS

Electronics 40S

Prerequisite – None

Topics Include:

- | | |
|--|-------------------------------|
| Solve electronics related problems | Research topics in electronic |
| Robotics/microcontrollers | Project design and testing |
| Automotive stereo installation | |
| Apply student knowledge of electronics in designing projects | |

Graphic Arts 40S

Prerequisite – None

Graphics 40S course is intended to give students a variety of problem solving and design challenges to apply their knowledge of graphic communications. The gathering of information, planning, evaluating, and presentation of final solution process will be followed. Students are expected to overcome the many hurdles that arise in the publication process. Students will also be given the opportunity to further develop areas of special interests to them, within the graphic communications area.

Power Mechanics 40S

Prerequisite – None

This course is designed to have students rebuild various automotive components, and to increase the students' awareness of and their suitability for the employment market.

Topics Include:

Student Orientation and Safety	Mig Welding
Fuel System: Carb. Rebuild, Fuel Injection	Automatic Transmission Rebuilds
Engine Head Rebuild	Engine Diagnostic Analysis

Woodworking 40S – Furniture Design Technology

Prerequisite – None

The technology 40S program is designed to give students the opportunity to investigate students' area of interest. A good understanding of math and science would be beneficial. Guitar building is a shared cost option for students enrolled in this course.

Goals:

- To promote the development of basic and generic skills in the use of common industrial tools and machines, and the implementation of processes
- To develop a learning environment and attitude that fosters achievement in a practical manner
- To promote the development of problem-solving skills
- To enable students to acquire an appreciation for decision making and problem-solving techniques.

THE HUMANITIES

Current Topics in First Nations, Métis and Inuit Studies 40S: *Offered 2020-2021 (every other year) for Grade 11 and 12 students*

Prerequisites - None

A Foundation for Implementation

AS40S is a multi-disciplinary course that allows students to explore and develop skills and concepts in the Arts, ELA, Geography, History, Social Studies, and Law. This course focuses on current issues that face Canada and our aboriginal citizens in recent and current history. Our text is *First Nations, Inuit, and Métis Peoples: Exploring Their Past, Present, and Future*. This course will also have other readings, speakers, discussions, and field trips, but it will also entail one research project to be chosen by the student's individual interests. Assessment: 70% term work & participation, 30% final project.

Psychology 40S*Offered 2021-2022 (every other year) for Grade 11 and 12 students**Prerequisite - None*

The objectives of this course are to encourage student self-reliance in pursuing educational goals. In this case, the goals are the study of human behavior (both normal and abnormal) from biological, psychological, and social perspectives. Instructional techniques include reading assignments, projects, lecture, and small and large discussion groups. Once the basics of the history, current practices, and methodology of psychology have been covered, students will be given some choice in chapter topics to cover.

Topics Include:

Learning and Conditioning
Social and Cultural Behaviors
Thinking and Intelligence
Sensation and Perception
Memory

Human Sexuality
Health and Coping
Psychological Disorders
Personality Theory
Emotion

MISCELLANEOUS COURSES**Community Service Student Initiated Project (CSSIP)***Prerequisite - None*

Volunteering is one of the greatest natural resources and is essential to a healthy community. Community Service can be an enriching experience, as it becomes a learning opportunity blending volunteering and learning goals that become mutually beneficial. Students involved in service learning can make lasting and significant contributions to their community while enhancing their education and expanding their life experiences. Volunteering fosters personal development in the areas of self-image, social sensitivity, teamwork skills, civic knowledge and responsibility, career exploration and critical thinking as well as emphasizing skills and attitudes necessary for responsible citizenship.

The Community Service Student Initiated Project (SIP) Credit Option enables those students who make a contribution to their community by volunteering for approved causes or organizations, to receive recognition for the civic skills, knowledge, and attitudes obtained in the volunteer activity. By providing a Community Service Student-Initiated Project (SIP), students have the opportunity to obtain credit for a private activity in a pre-approved placement for which they may receive either .5 credit (55 hours minimum) or 1.0 (110 hours minimum).

Arrangements must be made with Students Services prior to completion of the credit.

Cultural Exploration Student-Initiated Project (CESIP)

Prerequisite - None

Students can gain valuable educational experience by enhancing their knowledge of their own cultural origins or a cultural group that interests them through interaction with community members such as elders and members of cultural organizations. The skills, knowledge and attitudes obtained from such activities can increase a student's self-esteem and maturity, strengthen cultural identity and/or provide greater intercultural understanding and an appreciation of cultural diversity.

Arrangements must be made with Students Services prior to starting the credit.

SPECIAL LANGUAGE CREDITS

Students may be awarded up to four special language credits through two pathways:

- By presenting recognized credentials (transcripts, report cards, certificates of standing etc.) that demonstrate prior instruction or proficiency in languages other than English or French
- By successfully completing special language examinations. Arrangements are made through the school principal for a qualified examiner to assess the student's oral and written skills.

PRIVATE MUSIC OPTION

Students can earn up to four optional credits if they meet the requirements of the Conservatory Canada or the Royal Conservatory of Music programs. Arrangements are made through the school principal for these credits to be recorded.

Online Courses - (2020 – 2021)

Why Take an Online Course?

Various circumstances can make online courses an appropriate option for some students:

- An interest in learning through this delivery method
- Course conflict
- Full schedule
- Course not offered at their home school
- School absence due to illness/surgery; elite athletics; etc.
- The need to change or add a course once the term has started

Am I a Candidate for an Online Course?

Taking a course online is challenging and requires students to be willing to commit the same amount of time as they typically would in a face-to-face classroom environment. Past experience indicates that to be successful, you should possess the following characteristics:

- Capable of an appropriate level of independent learning
- Excellent time management skills
- A willingness to contribute to discussions and to share problems and opinions online

How Does an Online Course Work?

An online course delivery tool called **WebCT** is used to deliver course content. Teachers working from various LRSD high schools provide students with course outlines, assignments, tests and feedback using this system and e-mail. Course content is available on the internet at all times. Students will have a school contact teacher to facilitate communication and provide additional support.

Some course previews can be found at: <http://webct.merlin.mb.ca/webct/entryPageIns.dowebct>

Login with "**demo**" for both user name and password.

Online Courses offered

<ul style="list-style-type: none">• Advanced Placement Calculus 42S• Advanced Placement World History 42S (Sept. to May)• Applied Mathematics 30S• Applied Mathematics 40S• Essential Mathematics 30S	<ul style="list-style-type: none">• Essential Mathematics 40S• Physics 30S• Physics 40S• Physical Education 30S• Physical Education 40S	<ul style="list-style-type: none">• Biology 30S• Biology 40S• English Comprehensive Focus 30S• English Comprehensive Focus 40S• English Transactional Focus 40S• History 30F
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Fast Forward – Post Secondary Today!

Fast Forward is a unique opportunity for Louis Riel high school students to earn university and college credits in partnership with University of Winnipeg, Université de Saint-Boniface, Red River College, and the University of Manitoba while they are still in high school. These courses are free and are considered dual credits; they count for high school graduation and university or college credit with our partner institutions.

Fast Forward courses will:

- Follow Canadian university or college curriculum
- Be taught by university or college accredited professors/instructors
- Be recognized by Canadian universities and colleges

When can students begin Fast Forward courses?

University or college course work can begin in Grade 11. Students must have completed 22 high school credits (maintaining a 70% academic average), completed at least one 40S credit or in consultation with/or at the school's discretion.

When are courses offered in 2020-2021?

First & Second semester (September to June)

Is there a cost for Fast Forward Courses?

The only cost will be the registration fee for the post-secondary institution (approximately \$80). Course enrolment is free (costs are covered by the Louis Riel School Division) and represents a significant cost reduction to a student's post-secondary program.

Can students withdraw from the course if they find it is not for them?

University or college transcripts will not include courses from which students withdraw two weeks prior to the final exam.

What courses will be offered?

Courses offered will be dependent on enrolment and may include first year:

- Calculus
- English



The **Arts & Technology Centre** is an extension of the Louis Riel School Division high schools for grade 11 & 12 students. Students who choose ATC as part of their high school studies take the majority of their grade 11 & 12 elective courses at ATC and their compulsory courses at their home school. Students typically attend ATC for one semester in grade 11 for Part 1 of a program and then may return for another semester, in grade 12, to take Part 2 of their program. Talk to your counsellor about other possible patterns.

Students register at their home school, allowing them to participate in school events and extra-curricular activities including sports, music, and student government. Students graduate with their classmates at their home school. In addition to their regular high school diploma and an ATC certificate, students in most programs earn a Technology Education high school diploma. Students may also choose to complete all or part of a program following high school graduation (no tuition fees for the first 4 credits after graduation).

ATC students who hold evening or summer jobs may be eligible to obtain high school credits towards graduation and time credit towards continued apprenticeship training by applying for the High School Apprenticeship Program.

Students are encouraged to bring and use their own electronic devices. Students are encouraged to participate in intramural activities available at lunch time through our open gym program as well as the student advisory committee (student government).

See your guidance counsellor to include ATC courses as part of your grade 11 and 12 or post-secondary plans.

ATC PROGRAMS

Courses: To assist with scheduling, ATC students can enroll in an online academic course while at ATC. There are five class periods in a day at ATC and most programs require four periods with the exception of the following programs: Building Trades, Hairstyling, and Part 2 of Esthetics. Academic courses are scheduled into the remaining period and include:

- English Comprehensive Focus 30S/40S
- Essential Mathematics 30S/40S

- English Transactional Focus 40S
- History 30F
- Accounting 30S
- Physics 30S/40S
- Applied Mathematics 30S/40S
- Pre-Calculus 30S
- Calculus 42S & World History 42S (AP)
- Physical Education 30F/40F

Administrative Assistant: Designed for students with strong personal interest in Microsoft Office applications and office practices and to prepare students for employment in clerical and administrative assistant positions.

- **Skills** – accounting, word processing, spreadsheets, databases, multimedia presentations, management fundamentals and office procedures & protocols
- **Features** – most current office software & technology, Accounting 30S & 40S credits fulfill high school math requirement, work practicum in an office (6 weeks)
- **Part 1** – 4 credits, offered in semester 1 (part 1 must be taken before part 2)
- **Part 2** – 4 credits, offered in semester 2
- **External Industry Certification** – can take any one of the Microsoft Office Specialist exams in *Word, Excel, Access or PowerPoint* (extra fees apply)

Automotive Technology: Designed for students with strong personal interest in automotive technology and to prepare students for employment or further education in the automotive industry.

- **Skills** – diagnosis and repair related to basic service, mig & gas welding, brakes, engine fundamentals & performance applications, fuel systems, chassis & drive train and electronics
- **Features** – theory (1 period/day), practical lab work (1 period/day), on-the-job training on customer vehicles in a well-equipped 12 bay shop (2 periods/day) and industry work practicum (4 weeks) matched to student's interests
- **Part 1** – 4 credits, offered in semester 1 (students normally take part 1 before part 2 – exceptions based on Industrial Arts or past experience)
- **Part 2** – 4 credits, offered in semester 2
- **Apprenticeship Manitoba** – can receive credit for Level 1 in-school technical training for the trade of Automotive Service Technician
- **Red River College** – can receive credit in the Automotive Technician Certificate Program

Baking & Pastry Arts: Designed for students with strong personal interest in pastry and baking and to prepare students for employment in the food services industry, retail and commercial bakeries and in pastry shops, specialty shops, corporate and health care cafeterias, cruise ships and international resorts and hotels.

- **Skills** – Sanitation and safety procedures, bakery management, quick breads & cookies, yeast goods, wedding & occasional cake production and decorating, special pastries, chocolate, artistic show pieces
- **Features** – theory (1 period/day), on-the-job training in well-equipped bakery (3 periods/day)
- **Part 1** – 4 credits, offered in semester 1
Part 2 – 4 credits, offered in semester 2 (part 2 may be taken before part 1)
- **Apprenticeship Manitoba** – opportunities are available

Building Trades Designed to provide students (minimum 16 years old) with valuable on-the-job experience in one or more building construction trade(s) of personal interest such as carpentry, concrete, bricklaying, framing, heating, plumbing, painting and cabinet-making in preparation for employment, apprenticeship or further education.

- **Skills** – theory and demonstrations focus on all aspects of residential construction including blueprints, concrete, framing, exterior coverings & roofing, interior millwork & finishing, cabinets & finish coatings, electrical, heating & air-conditioning and renovations. On-the-job skills training will vary depending on the trade chosen for industry work practicum.
- **Features** – theory & demonstrations (Mondays at ATC) and industry work practicum (Tuesday – Friday on job sites). Students are required to travel to job sites and may work in adverse conditions.
- **Part 1** – 4 credits, offered in semester 1
- **Part 2** – 4 credits, offered in semester 2 (part 2 may be taken before part 1)
- **Apprenticeship Manitoba** – opportunities are available

Culinary Arts: This program is designed for students with strong personal interest in culinary arts and to prepare students for employment locally, nationally or internationally or for further education in the food services industry.

- **Skills** – preparation of fruits & vegetables, stocks, soups & sauces, meats, poultry, fish & seafood, baking & pastry, nutrition, garde manger, management, purchasing, costing, catering and entrepreneurship
- **Features** – theory (1 period/day), on-the-job training in well-equipped commercial kitchen (3 periods/day), on-site and off-site catering, industry work practicum (4 weeks), culinary competitions.
- **Part 1** – 4 credits, offered in semesters 1 & 2 (part 1 must be taken before part 2)
- **Part 2** – 4 credits, offered in semesters 1 & 2
- **Manitoba Apprenticeship** – can receive credit for Level 1 in-school technical training for the trade of Cook
- **Red River College** – can receive credit in the Culinary Arts Program

Early Childhood Educator: Designed for students with strong personal interest in early childhood education and to prepare students for employment in child care centres. This

program provides a strong foundation and a head start for students considering further post-secondary education leading to Early Childhood Educator II (ECE II) designation.

- **Skills** – development of self-regulation through guided practice, planning play-based experiences and interacting with children through play, providing nurturing care, cultural diversity and family dynamics, human development, infancy & toddlerhood, and communication.
- **Features** – comprehensive child development theory delivered in a teacher-led classroom environment, weekly work practicum in a child care facility
- **Part 1** – 4 credits, offered in semester 1
- **Part 2** – 4 credits, offered in semester 2 (part 2 may be taken before part 1)
- **Red River College** – students who complete the ATC program with a grade of 65% or greater in each course can apply to enter directly into Term 2 of the four-term Early Childhood Education program. RRC Early Childhood Education graduates earn credit toward degree programs at several universities; please see RRC website for details.

Electrical Trades: Designed for students with strong interest in electrical trades. A pre-employment program for individuals who have good mathematical capabilities and are seeking apprenticeship opportunities in electrical trades, or considering a career in electrical engineering.

- **Skills** – principles of electronics including relevant mathematics and physics, Canadian Electrical Code, AC/DC Circuits, residential and industrial wiring, conduit bending, armored cable applications, blueprint reading, installation of complete systems.
- **Features** – Theory in a teacher-led classroom environment, hands-on practical work in a lab facility
- **Part 1** – 4 credits, offered in semester 1 (part 1 must be taken before part 2)
- **Part 2** – 4 credits, offered in semester 2
- **Apprenticeship Manitoba** – students may challenge the Level 1 theory exam administered by Apprenticeship Manitoba. To be eligible, students must gain employment under the supervision of a Journey-person Electrician and register as apprentices. Students may begin Apprenticeship while in school.

Esthetics: This program is designed for students with strong personal interest in nail and skin care and to prepare students for employment as estheticians or nail technicians in a salon or spa.

- **Skills** – manicures, pedicures, nail extensions, nail art & nail treatments, skin treatments, make-up application and hair removal
- **Features** – theory, practice on mannequins, on-the-job training on clients in a well-equipped salon facility, competitions
- **Part 1 (Nail Technology)** – 4 credits, offered in semester 1 & 2 (part 1 must be taken before part 2; students must maintain a 70% average and complete required hours throughout part 1 to be eligible to proceed to part 2)
- **Part 2 (Skin Care Technology)** – 5 credits, offered in semester 1 & 2
- **Apprenticeship Manitoba** – students who successfully complete Part 1 (Nail Technology) and obtain a grade of 70% or higher on each component of the practical exam administered by Apprenticeship Manitoba will be eligible to enter a one-year apprenticeship in a salon, which will lead to journeyman status as a Nail Technician. Students who successfully complete Parts 1 & 2 (Nail Technology & Skin Care Technology) and pass the practical exam administered by Apprenticeship Manitoba will be eligible to enter a two-year apprenticeship, which will lead to journeyman status as an Esthetician.

Hairstyling: This program is designed for students with strong personal interest in hairstyling and to prepare students for employment as a hairstylist for both men and women.

- **Skills** – safety & sanitation, hair analysis, shampooing & hair cutting, waving & straightening, permanents, bleaching, conditioning, hairstyling, hair coloring, beauty treatments on face and neck, wig & hairpiece service, trimming beards & mustaches, makeup, eyebrow & eyelash treatments, manicures on natural nails and salon management
- **Features** – theory, practice on mannequins, on-the-job training on clients in a well-equipped salon facility, industry work practicum (1 week), hairstyling competitions
- **Part 1** – 5 credits, offered in semesters 1 & 2 (part 1 must be taken before part 2)
- **Part 2** – 5 credits, offered in semesters 1 & 2 (part 2 must be taken before part 3)
- **Part 3** – 2 credits, offered in semesters 1 & 2
- **Apprenticeship Manitoba** – successful students will be eligible to enter a two-year apprenticeship in a salon, which will lead to red seal journeyman status as a Hairstylist. Students may be eligible to begin a paid apprenticeship while enrolled in the program.

Information Systems Architect: Designed for students with strong personal interest in computer repair and networking and to prepare students for employment in the installation and maintenance of computer hardware, software and network infrastructure. ATC is part of the Cisco Academy Program.

- **Skills** – software, hardware and networking fundamentals and troubleshooting, security and forensic techniques, network gaming and optimization, router programming, home and small business networking solutions.
- **Features** – theory, on-the-job training on clients' computers, industry work practicum (5 weeks)
- **Part 1** – 4 credits, offered in semester 1. (Students normally take Part 1 before Part 2 – exceptions based on experience)
- **Part 2** – 4 credits, offered in semester 2.
- **Red River College** – can receive credit in the following programs: Electronic & Network Technician, Electronic & Network Technician, Electrical/Electronic Engineering Technology, Network Technology (CCNA).
- **External Industry Certification** – Students completing Part 1 can write the CompTIA A+ Computer Repair Technician exam. In Part 2, students may also choose to write the CompTIA Net+ Network Technician exam. Upon completion of first two courses of the Cisco Discovery curriculum, students may be eligible to write the Cisco CCENT Cisco Certified Entry Network Technician exam (extra fees apply).

New Media Design: This course will expose students to different aspects of the New Media Industry through participation in the work flow of designing and developing an online presence. This program provides a solid foundation for students considering a career in website development, computer programming, digital media design, game design and development or other information technology fields whether through direct employment, self-employment or further study at university or Red River College.

- **Skills** – HTML, CSS, Java Script, PHP, website creation and maintenance using Dreamweaver, web layouts and graphics using Photoshop and Fireworks, Flash Games & Action Script, database concepts, business concepts including SEO and Social Media, project management.
- **Features** – web project for a business client (4 months), online portfolio development
- **Part 1** – 4 credits, offered in semester 1 (part 1 must be taken before part 2)
- **Part 2** – 4 credits, offered in semester 2
- **Red River College** – can receive credit in the following programs: Digital Media Design and Business Information Technology

High School Apprenticeship Program (HSAP) Available in LRSD High Schools

HSAP allows Louis Riel School Division students, while attending their home high school or ATC, to earn up to eight grade 12 credits and up to 880 hours of on-the-job training towards continued apprenticeship training after graduation. Depending on school timetable, students may be able to do paid work during the day, evening, or weekend. Summer work can count too. Students must work a minimum of 110 hours towards apprenticeship in any of the designated trades and obtain a grade of 70% or higher on their evaluation to be eligible to receive one credit. ATC students who register for HSAP can combine their on-the-job hours earned in an ATC program with hours earned through HSAP for a significant start on apprenticeship.

- **Skills** – on-the-job skills in over 40 trades consistent with Apprenticeship Manitoba guidelines for training
- **Features** – a way to make your part-time job count and earn grade 12 credits towards graduation, allows you to begin apprenticeship while in school, you get paid to learn
- **Prerequisites** – high school students must have a complete Grade 10, students must be at least 16 years old.
- **Student's Responsibilities** – to gain entry into the HSAP program the student:
 - finds an employer willing and able to train an apprentice
 - contacts the LRSD apprenticeship teacher
 - works with school to ensure an appropriate timetable is possible.

Once accepted into the HSAP program, the student:

- arranges travel to and from work
- maintains all in-school studies and a 70% mark in on-the-job training
- informs the employer of any absences
- reports regularly all hours worked to the LRSD apprenticeship teacher

- **How to Register:** Students may see Mr. Darry Stevens, Louis Riel School Division HSAP Teacher, at their home school or contact him by phone at 204-792-4816. More information about HSAP is available online at <http://www.lrsd.net/schools/atc>
- **Qualifying Trades**

INDUSTRIAL

- Boilermaker
- Electric Motor System Technician
- Industrial Electrician
- Industrial Instrument Mechanic
- Industrial Mechanic (millwright)
- Machinist
- Power Electrician
- Steel Fabricator
- Tool and Die Maker
- Welder

TRANSPORTATION

- Agricultural Equipment Technician
- Aircraft Maintenance Journeyman
- Automotive Service Technician
- Diesel Engine Mechanic
- Gas Turbine and Overhaul Technician
- Heavy Duty Equipment Mechanic
- Marine & Outdoor Power Equipment Technician
- Motor Vehicle Body Painter
- Motor Vehicle Body Repairer
- Railway Car Technician
- Recreational Vehicle Service Technician
- Transport Trailer Technician
- Truck & Transport Mechanic

CONSTRUCTION

- Bricklayer
- Cabinetmaker
- Carpenter
- Concrete Finisher
- Construction Craft Worker (Labourer)
- Construction Electrician
- Crane & Hoist Equipment Operator
- Glazier
- Mobile Crane Operator
- Boom Truck Hoist Operator
- Tower Crane Operator

- Power Generation and Transmission Boom Truck Hoist Operator
- Gasfitter
- Domestic Gasfitter
- Insulator (Heat & Frost)
- Ironworker
- Lather (Interior Systems Mechanic)
- Painter & Decorator
- Plumber
- Refrigeration & Air Conditioning Mechanic
- Rig Technician
- Roofer
- Sheet Metal Worker
- Sprinkler System Installer
- Steamfitter-Pipefitter
- Water and Wastewater Technician

SERVICE

- Cook
- Electrologist
- Esthetician
- Floor Covering Installer
- Hairstylist
- Landscape Horticulturalist
- Parts Person
- Pork Production Technician

