

Red River Technical Vocational Area (RRTVA)

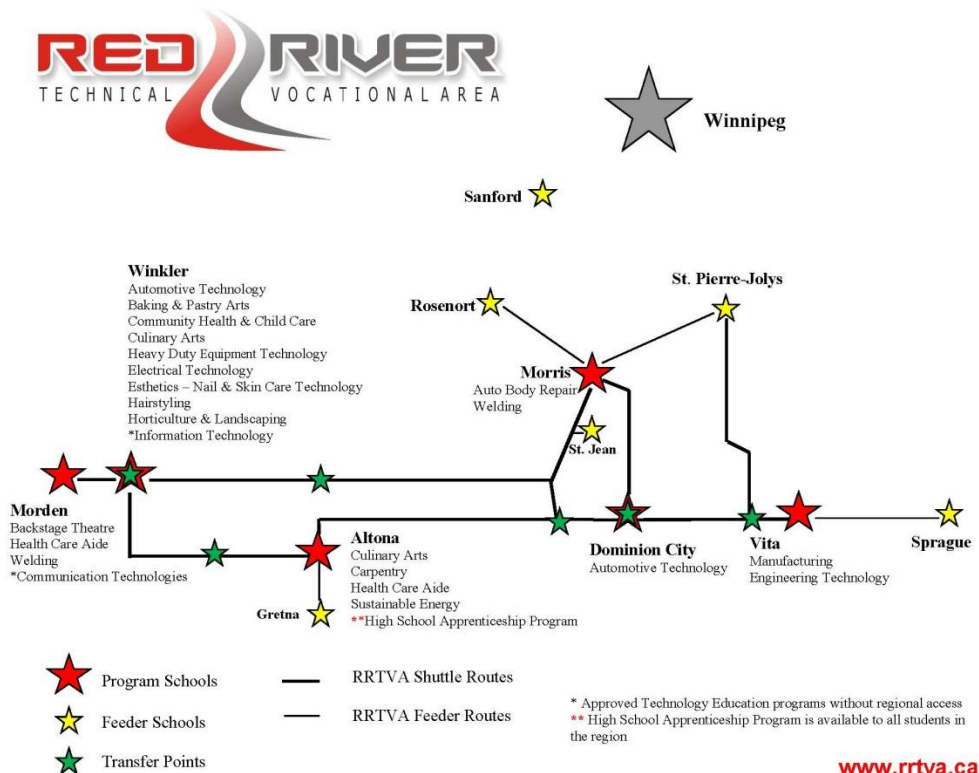
Full-Day Programs

The RRTVA is a consortium of regional high schools which have joined together to offer a wider variety of technology education programs than any one of them could offer on their own. It has become part of a strong tradition of working together to provide high quality technical education options to high school students of southern Manitoba.

Students typically take one semester of regular academic courses at their home school and one semester of technical training at the consortium school that offers the program. Programs may take from one to three full semesters to complete.

Almost all trades related programs are accredited with Manitoba Apprenticeship. If a student achieves a grade of 70% or higher in any accredited program, they will be granted the first level of technical training in the trade for which that program is accredited. They will still need to complete the Practical Training Time Credit for the first level which can be started through the High School Apprenticeship Program for high school credit as well.

Transportation to partner schools is provided and the classes are contained within the regular school day. This allows students to remain, involved with extra-curricular activities in their home schools.



Each of the programs are outlined on the following pages. Any students interested in registering for any of the RRTVA programs must complete and hand in a RRTVA intent form to the Rosenort School office. RRTVA intent forms are available on our website- RRTVA.ca and/or at the Rosenort School office.

Auto Body Repair (Morris School, Morris)

The Auto Body program prepares students to work in auto body repair shops and to prepare and apply finishes to a wide variety of surfaces. With the increasing complexity in automotive design, construction and finishes, this has become a technically advanced area of study. Students learn to work with a variety of automotive components, materials and finishes. Skills learned in this program are also valuable in other areas of study such as engineering and manufacturing.

Students learn the basics of auto body repair and painting techniques through a variety of assignments and special projects. Classroom theory is combined with a great deal of hands-on practice and learning in the shop. After learning to use hand and power tools related to the trade, students practice the skills on sample vehicle panels. As their skills develop, students have the opportunity to work on live projects including collision repair and customization of personal or customer vehicles.

The Exploration of Welding Technology 10S credit will be delivered in one six week block at the Morris School Welding facility. The Introduction to Power Mechanics 10S credit will be delivered in one six week block at the Automotive Technology facility in Dominion City.

Many students have found jobs with auto body repair shops and automobile dealerships. As well, on completion of the program employment opportunities may include:

Automotive Detailer	Auto Body Supplies person
Radiator Repair Technician	Insurance Estimator
Insurance Adjuster	Industrial Spray Painter
Glass and Trim Sales and Installer	

ITT- Intro to Auto Body, Welding and Automotive Technology

Level 2

8025 Intro to Auto Body Repair 10S

8029 Intro to Paint Preparation 30S

8695 Introduction to Automotive Technology

8030 Body Alignment 30S

8377 Exploration of Welding Technology 10S

8033 Refinishing Preparation 30S

8880 Intro to HI Tech 10S

8035 Painting and Refinishing 40S

Level 3

8034 Collision Repair 40S

8036 Shop Management 40S

8037 Advanced Refinishing 40S

8038 Applied Auto Body 40S



Completion of training in this program will improve a student's chances of locating employment as an apprentice in this and related fields. Graduates may be eligible to challenge the Level I Apprenticeship examination.

Automotive Technology (Roseau Valley School, Dominion City)

This program involves the maintenance and service of automobiles, heavy duty and agricultural equipment. Students learn about the service, maintenance and repair of mechanical systems through classroom instruction, along with practical experience in the shop. Students diagnose problems with motor vehicles and other equipment, and then perform the required service and repairs.

The student learns the proper use of trade related tools and equipment. Other related topics such as safety, mathematics, and science and trade technology are also covered. Students in Level 3 participate in an integral work placement component which allows them the opportunity to work with skilled technicians in a workplace setting, often results in local employment opportunities and improved future employment opportunities after graduation.

Many students have found employment with automobile and truck dealerships as well as companies servicing agricultural and construction equipment. A variety of mechanical, manufacturing and engineering occupations also fall into this category.

Employment opportunities may include:

Automotive Technician	Diesel Technician	Air Craft Technician
Transmission Technician	Fleet Services Technician	Highway Tractor Operator
Service Writer/Advisor	Machinery Set-Up Person	Parts Clerk/Sales
Automotive Instructor	Industrial Mill Wright	Farm Implement/Agriculture

Students enrolled in the Automotive Technology program will improve their chances of obtaining employment as an apprentice in the motor vehicle mechanics field.

The Roseau Valley School program is accredited with Manitoba Apprenticeship where students who complete this program with an average of 70% or higher may be granted standing for their Level 1 Apprenticeship technical training. Practical training hours can be acquired through the High School Apprenticeship Program (HSAP) -a high school, evening/weekend/summer work practicum recognized Apprenticeship MB.

The Exploration of Welding Technology 10S and the Intro to Auto Body Repair 10S credit will be delivered in six week blocks at Morris School in Morris.

Automotive Technology courses include:

ITT- Intro to Auto Body, Welding and Automotive Technology
8025 Intro to Auto Body Repair 10S
8695 Introduction to Automotive Technology
8377 Exploration of Welding Technology 10S
8880 Intro to HI Tech 10S



Level 2

8696 Automotive Systems and Service 20S
8697 Engine Fundamentals and Service 30S
8701 Vehicle Systems Part 1 40S
8702 Vehicle Systems Part 2 40S

Level 3

8301 Electrical Systems 30S
8300 Fuel Systems 30S
8306 Automatic Transmission 40S
8309 Diagnosis Correction 40S

Carpentry (W.C. Miller Collegiate, Altona)

The **Carpentry** program is replacing the **Building Construction** program.

The Carpentry program provides students with the opportunity to experience many aspects of the trade of carpentry. The first level is an opportunity to explore the trade. Students learn how to use the tools and equipment, learn about measurement and how to transfer information from a drawing to a project. As students progress through the program, they develop their skills and knowledge on more complex and challenging projects as they prepare to make the transition to the work place. Precision, craftsmanship, and safe work procedures are emphasized throughout the program

Career and Employment Opportunities

A student graduating from the Carpentry program can seek entry level employment in the construction industry. There are employment opportunities in the residential, commercial, and industrial construction sectors. Students can continue with their apprenticeship training or obtain post-secondary education in a variety of areas related to construction.

The opportunities range from work as a labourer to professional occupations. The career paths can be classified as follows:

- ***Labour – machine operator, general labourer, concrete finisher, etc.***
- ***Trades – carpenters, electricians, plumbers, etc.***
- ***Technical – surveyors, building inspectors, draftsman, etc.***
- ***Professional – architect, engineer, etc.***

Students who take this program and earn an average of 70% or higher are recognized by Manitoba Apprenticeship as having completed the first level of Technical Training for the Carpentry Trade.

Level 1

8584 Introduction to Carpentry 10S
8585 Carpentry Fundamentals 20S
8058 Interior/Exterior 30S
8588 Millwork 30S

Level 2

8590 Exterior Finishing 40S
8586 Foundations & Floor Framing 30S
8587 Wall & Basic Roof Framing 30S
8064 Stairs 40S

Level 3

8592 Advanced Millwork 40S
8589 Advanced Framing 40S
8591 Interior Finishing 40S
8069 Interior Design 40S



Community Health and Child Care (Northlands Parkway Collegiate, Winkler)

This program is designed to provide students with the necessary entry level care giving skills required to be a service provider or assistant in a daycare, health care facility, or school. Areas of study will focus on communication, personal presentation, observation and reporting human development and basic technical information specific to each area of study. These skills will be gained through academic activities and practicum experience. Students will have an opportunity to acquire certification in Red Cross Emergency First Aid. Students who have an interest in careers and future studies in Child Care, Nursing, Teaching, Social Work and other care-related careers will find this program very beneficial.

This is a cooperative technology program. Approximately one half of the student's time will be spent in the classroom setting and the other half in a work placement (daycare, early years classroom, hospital, personal care facility etc.). Students may go directly into the Child Care Emphasis, Health Care Emphasis, or both. There are no pre-requisites.

Child Care Emphasis

8661 Communication Skills 30S

8658 Intro to School Age 30S

8743 Health & Safety 30S

8739 Pre-School Children 30S

Health Care Emphasis

8749 Applied Geriatric Care 40S

8806 Nutrition & Hygiene 40S

8665 Advanced School Age 40S

8746 Advanced Health Care 40S or 8745 Advanced Childcare 40S

Strongly recommended complimentary courses: Family Studies 20G, Family Studies 30S, Family Studies 40S.

Culinary Arts (W.C. Miller Collegiate, Altona)

Where can you learn how to cook your way to success? The W.C. Miller Collegiate Culinary Arts program in Altona. Learn in what is arguably the best equipped teaching kitchen in all of Manitoba. Large food preparation areas, industrial grade equipment and experienced professional staff allow you to learn the basics of the commercial food industry while completing a high school diploma. When you're done you'll be confident and prepared to join the hospitality industry; one of the fastest growing industries in Canada today.

The Culinary Arts program is a two level, eight credit program that teaches the basics of commercial cooking. Students will have the opportunity to learn the skills and attitudes necessary to find employment in entry-level positions in a variety of food service areas such as cafeterias, dining rooms, institutions, and restaurants.

You can also take our third level in Commercial Baking to learn more about a fascinating and delicious sub-trade in the culinary arts industry. No good meal is complete without dessert and neither is our program!

The Culinary Arts program is accredited by Manitoba Apprenticeship and lets you get your start on a Red Seal (your professional certificate) in the cook trade. Students who take all three levels of this program are recognized by Manitoba Apprenticeship as having completed the first year of theory of the two year apprenticeship program at Red River College. Some restrictions apply so be sure to ask about this early on in the program. Practical training hours can be acquired through the High School Apprenticeship Program (HSAP) - a high school, evening/weekend/summer work practicum recognized Apprenticeship MB.

Some time is spent each day studying theory through assignments, tests, and instructional packages. The majority of the day is spent in the kitchen applying this theory and preparing food for service. This is the only program where you have an exam every day - Lunch! The Culinary Arts program serves a spacious 300 seat cafeteria at Miller Collegiate and you get to see the success of your efforts each day.

Culinary Arts courses include:

Level 1

8791 Cooking Principles 20S
8792 Garde Manger 30S
8793 Patisserie and Baking 30S
8795 Stocks, Soups & Sauces 40S

Level 2

8794 Veg, Fungi, Starches & Farinaceous Products 30S
8796 Breakfast and Dairy 40S
8797 Menu Planning and Food Costing 40S
8798 Meats, Poultry, Fish & Seafood 40S

Level 3

8324-Intro Baking & Pastry Arts 20S
8338 Quick Breads, Cookies, Doughnuts, Pies 30S
8339 Yeast Dough Products 30S
8998 Advanced Baking & Pastries 40S



Heavy Duty Equipment Technology (GVC TEC, Winkler)

The **Heavy Duty Equipment Technology** program is replacing the **Diesel Technology** program.

This program involves the development of many technical hands-on skills that are needed for a technician to be successful in the ever changing field of Heavy Duty Equipment Technology. This training will create vital job opportunities for each student's future.

Training will include items such as: forklift licensing, safety training, welding, operation of heavy equipment, rebuilding engines, transmissions, hydraulic pumps, fuel injectors, fuel pumps, and computer diagnostics.

Students will explore the important role that the diesel industry plays in our economy, and will begin to develop knowledge and skills specific to Heavy Duty Equipment Technology. The Heavy Duty Equipment Technology program will offer career education in a field that is growing rapidly and deemed vital in both the agricultural, transportation, and construction sectors.

The program is aligned with apprenticeship training, offering students with an average of 70% or higher, a Level 1 Accreditation towards any of the 3 Heavy Duty Equipment Technician apprenticeship programs: (1) Farm Equipment Technician, (2) Heavy Duty Technician, (3) Truck Transport Technician.

Level 1

8005 Introduction to Farm Skills 20S

8011 Farm Machinery 40S

8079 Computers and Electrical Fundamentals 30S

8149 Diesel Engine Systems and Repair Procedures 30S

Level 2

8153 Standard Transmissions Systems and Drivelines 40S

8150 H.D. Brake Systems 30S

8152 H.D. Electrical Systems 40S

8155 Applied Diesel Technology 40S



Educational Assistant (Red River Community College, Winkler)

This program is suitable for students wanting employment as Educational Assistants in the public or private school systems. The Educational Assistant course is a dual credit program offered jointly by the schools in the RRTVA and Red River College.

As a pre-requisite students must be in Grade 12 and have completed at least one level of the Community Health & Child Care Program. Students who have already graduated may apply directly for admission with no pre-requisite. All admissions will be done in consultation with Red River College. Students must meet Red River College admission requirements.

While this program is open to senior years students it should be noted that these courses are delivered at the college level by Red River College. At the time of printing, funding for this program is under review.

The Educational Assistant program includes:

8655 Curriculum Ideas 30S

8663 Curriculum Planning 40S

8660 Historical Perspectives 30S

8656 Human Development 30S

Educational Assistant students must be registered at Rosenort School, and must ALSO complete a Red River College registration form and submit the college registration fee to the Winkler college office. This should be done at the same time course registrations take place at Rosenort School.

Forms and more information for registration are available at: www.RRTVA.ca

Electrical Technology (Northlands Parkway Collegiate, Winkler)

The Electrical Technology program provides students with the knowledge and skills necessary to install, operate, trouble shoot, service and repair electrical equipment in residential, commercial and industrial settings.

In the Electrical Technology program the students:

- Perform actual wiring in a series of projects, from simple circuits to more complex circuits
- Cover current, voltage, resistance, switch currents, Ohm's Law, series and parallel circuits and electronic measurement.
- Research and become familiar on how to locate and interpret the Canadian Electrical Code book
- Understand different types of AC Circuits including AC test equipment, inductive, capacitive and transformers.
- Be introduced to basic industrial wiring including fire alarm systems, conduit bending, armoured cable applications, motor controllers, blueprint reading and the Canadian Electrical Code
 - Read and interpret blueprints, drawings and code specifications for layout and installation of electrical equipment
 - Learn safe working procedures, conditions & injury prevention
 - Will receive WHMIS training
 - Receive training in human relations, customer service, organization skills running a small business and apprenticeship applications
 - Install, repair and replace electrical wiring, receptacles, switch boxes, conduits, feeders, cable assemblies, lighting fixtures and other electrical components
 - Test electrical and electronic equipment for continuity, current voltage and resistance
 - Troubleshoot, maintain and repair electrical and electronic control systems and devices as well as micro processor-based systems
 - Calibrate instrumentation devices

Part 1

8125 Intro to Electricity 20S

8442 DC Circuits 20S

8189 Canadian Electrical Code 30S

8129 Residential Wiring 30S

Part 2

8130 Industrial Wiring 30S

8443 AC Circuits 20S

8137 Applied Electricity 40S

8211 Apprenticeship Prep 40S

This program is aligned with apprenticeship training, offering students with an average of 70% or higher, a Level 1 Accreditation towards any of the 3 Electrical Trades: 1) Construction Electrician 2) Industrial Electrician 3) Power Electrician



Esthetics- Nail Technology & Skin Care Technology (Northlands Parkway Collegiate, Winkler)

The Esthetics program will provide the students with the knowledge and skills necessary for all aspects of nail and skin care including manicures, pedicures, nail extensions, nail art and treatments, skin care and treatments, make-up artistry and hair removal. The program will provide the students with theory and practical training on mannequins and real clients in a new well-equipped salon facility.

PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS:

All students entered in this program are required to wear the following Personal Protective Equipment while working in both the classroom and the salon: Black dress pants, closed-toe shoes with rubber sole (no slipper/moccasin, or UGG type shoes), other required equipment will be provided by the department. Please refer to the instructor of the course for further details.

ENTRANCE REQUIREMENTS:

A student interested in enrolling in the esthetics major should be in good health and have good physical stamina. This industry is not only mentally, but physically challenging. Long hours will be spent sitting, standing, bending, reaching and repeating the same motions. If a student has a bad back or weak knees this course is not recommended. Students must have good vision and hearing (normal or corrected); be non-allergic to chemical solutions; be able to read directions; be friendly and congenial with customers and fellow students.

There are two combined trades in this program:

Students completing the required Level 1 are eligible to enroll in the Skin Care Technology program for an additional 2 Levels.

In the **Level 1 Nail Technology (4 credits)** courses the students will:

- Basic of Chemistry, Anatomy, Physiology and Infection Control
- Perform manicures and pedicures on fellow students and clients
- File and shape nails, remove cuticle and callus, massage
- Removes and applies nail enamel/semi-permanent polish to nails
- Perform manicure and pedicure treatments-paraffin, hot stone and spa
- Applies artificial nail enhancements-gel, acrylic and fiberglass temporary nail tips
- Decorate clients' nails with designs and attach ornaments to nails
- Prepare for provincial practical exam



Students who take this program and earn an average of 70% or higher with the required hours are recognized by Manitoba Apprenticeship as having completed their Technical Training for the Nail Technician Trade. Practical training hours can be acquired through the High School Apprenticeship Program (HSAP) - a high school, evening/weekend/summer work practicum recognized Apprenticeship MB.

In the **Level 2 & 3 Skin Care Technology (8 credits)** courses the students will:

- Basics of Anatomy, Physiology, Dermatology, Histology, and Infection control
- Assess each client's skin condition and appearance to recognize diseases and disorders
- Demonstrate proper cleansing, exfoliation, and perform extractions for facial treatments and product knowledge
- Provide cosmetic massages and body treatments
- Correct skin problems using facial machines-high frequency, steamer, galvanic and more
- Perform day-time, evening, bridal and dramatic make-up and advise client
- Remove unwanted hair using depilatory methods

Students who successfully complete all three levels of this program and earn an average of 70% or higher with the required hours are recognized by Manitoba Apprenticeship as having completed their Technical Training for the Esthetics Trade. Practical training hours can be acquired through the High School Apprenticeship Program (HSAP) - a high school, evening/weekend/summer work practicum recognized Apprenticeship MB.



Hairstyling (Northlands Parkway Collegiate, Winkler)

Students in this program receive theoretical knowledge and practical experience in all phases of hair, face and nail care. A student should have creative ability, good finger dexterity, a pleasing personality, and must enjoy working with people. Good health is essential and a student should not have any chemical allergies. Students interested in this program should have the physical stamina required to stand for long periods.

Students learn the many customer service aspects of hairstyling, scalp, nail, and skin care. They are trained in treatments for hygienic or remedial purposes as well as beauty services such as manicures, hair removal and make-up applications.

Students learn through classroom theory instruction, work on mannequins as well as working with models. Evaluation for each unit will consist of assessing written assignments, theoretical knowledge, and practical performance and life skills.

Upon completion of the 1400 hour accredited hairstylist program and a 70% course average, the student will qualify for the Hairstylist apprenticeship program. This will allow them to be employed in a salon and work towards their interprovincial "Red Seal" certification.



Level 1

8312 Intro to Hairstyling 20S

8313 Basic Hairstyling 20S

8314 Bas Hair Cut and Thermal Styling 20S

8315 Related Salon Services 20S

Level 3

8694 Salon Management & Employability Skills 40S

8693 Advanced Hairstyling and Coloring 40S

8689 Advanced Haircutting, Waving & Straightening 40S

8692 Certificate Preparation 40S

Level 2

8316 Intermediate Haircutting & Barbering Techniques

8317 Hair Colouring

8318 Intermediate Hairstyling & Artificial Hair

8319 Chemical Texture Services

Health Care Aide (Morden or Altona)

Health Care Aide is a dual credit program offered jointly by schools in the RRTVA and Red River College, Winkler Campus. This college accredited program is offered at no cost for tuition or books to eligible high school students. High School Graduates may receive a subsidy for a portion of the Health Care Aide program tuition costs. This program will prepare students for entry level jobs in the health care field as nursing aides in hospitals and care homes as well as, home care workers.

Health Care Aide students are enrolled in a sponsoring RRTVA school as well as at Red River College (RRC). The credits earned in this program are registered at both their home high school as well as at RRC. Upon successful completion of the program, students will receive five Grade 12 credits as well as the RRC Health Care Aide certificate which is recognized in the health care field across Manitoba.

While this program is open to Grade 12 students, it should be noted that the courses are delivered at a college level by RRC and the requirements are those of a college classroom. While a high school credit may be granted if the student achieves a grade of 50% or better, the college requires a minimum of 80% to be eligible for their certificate. The college reserves the right to change its requirements as they see fit.

As a pre-requisite, under-graduate students must be in Grade 12 and have completed at least one level of the Community Health and Child Care program or Family Studies 40S to be considered for the program. Students who have already graduated may apply directly for admission with no pre-requisite.

All admissions will be done in consultation with Red River College and all applicants will be required to successfully complete a Degrees of Reading Proficiency Test (DRP) through the college.

Students may use these credits towards a Manitoba Senior Years Technology diploma. Check with your home school counsellor for details.

8804 Safety in Health Care 40S

8803 Human Relations 40S

8808 Aging and Related Disorders 40S

8811 Concepts for Practice 40S

8812 Personal Care Skills and Needs 40S

Health Care Aide students must be registered at Rosenort School, and must ALSO complete a Red River College registration form and submit the college registration fee to the Winkler college office. This should be done at the same time course registrations take place at Rosenort School.

Forms and more information for registration are available at: RRTVA.CA

High School Apprenticeship Program

***Prerequisite: Students must be 16 years old,
& have completed Grade 9.***

This program allows students to start an apprenticeship program while still in high school. It links high school instruction with paid, part-time, on-the-job apprenticeship training. Students need a qualified and insured employer who will hire them and train them as an apprentice. The HSAP Coordinator at the Apprenticeship Branch will work with the school, student, employer and the program coordinator to facilitate the apprenticeship. Students will earn one credit for every 110 hours of apprenticeship training, to a maximum of eight credits. Students will be paid a trade-specific rate and may apply their on-the-job hours to full-time apprenticeship training after graduation. Working hours can be scheduled to include evenings, weekends and summer break.

For more information talk to your school guidance counsellor or contact the High School Apprenticeship Instructor at 204-304-0985

Benefits of the HSAP

- earn up to eight supplemental academic credits for graduation
- be paid more than minimum wage
- credits received may pay for postsecondary training
- use this work experience to get a full-time job
- apply your on-the-job hours to full-time apprenticeship training after graduation

Eligible Trades

You have access to career opportunities in almost 60 trades. For a more complete listing of eligible trades refer to Manitoba Trades:

http://www.gov.mb.ca/tce/apprent/apprentice/apprenticeship_hs.html



Horticulture and Landscaping (GVC TEC Greenhouse, Winkler)

The Horticulture and Landscaping Program provides students with the basic foundation in the growing and popular field of Horticulture. The theory and practical components of the program concentrate on greenhouse maintenance, plant propagation and production, landscape construction and design, integrated pest management, floristry, arboriculture, and environmental and sustainability issues.

Students will have the opportunity to develop a working knowledge of the industry and to practice their skills in our greenhouse, on the school grounds, in various work sites and school mentorships in the community.

Upon successful completion of the program, students will have the necessary skills for entry level positions in the Horticulture field as well as, equip them with the skills and knowledge to be environmentally conscious individuals making choices for a more sustainable future.

Related Career Opportunities:

- Greenhouse Technician
- Landscape Technician
- Florist
- Arborist (Tree Specialist)
- Interior Plantscaping
- Garden Centre and Retail Nursery
- Forestry and Parks Technician
- Environmentalist
- Golf Course Workers
- Horticultural Therapist

Horticulture & Landscaping courses include:

Level 1

8718 Introduction to Horticulture 20S

8719 Applied Horticulture 30S

8733 Intro Landscape Maintenance & Construction 30S

8734 Into Greenhouse Maintenance & Production 30S

Level 2

8764 Advanced Horticulture 40S

8765 Appl Landscape Maintenance & Construction 40S

8766 Appl Greenhouse Maintenance & Production 40S

8767 Arboriculture 40S

ITT- Introduction to Trades and Technology (Morris & Roseau Valley School)

Introduction to Trades Technology (ITT) is a single semester which introduces students to basic mechanical skills used in many industries today. The Automotive Technology, Welding and Auto Body Repair shops are used to familiarize students with the tools and processes of three interrelated trades. Students can also use this semester to help them decide on which of the three programs they would like to specialize.

In the ITT semester, the student spends one-third of the time in each of the three shops mentioned above. The student spends approximately six weeks studying the introductory skills of each of the three trades. The skill learned in any one of the shops may then be applied in the other two shops to increase the students level of proficiency in the trade.

Students planning on entering any one of the trades full time will have exposure to related trades and processes as well as some of the vocabulary and tools they use.

The three credits listed below form an integral part of the program. A fourth credit, Introduction to Heavy Industrial Technology will be granted upon successful completion of the three credits. Students taking the ITT program will receive preferred entry into the second and third levels of the related program in which they choose to specialize.

The ITT courses include:

- **8377 Exploration of Welding Technology 10S**
- **8695 Introduction to Automotive Technology 10S**
- **8025 Introduction to Auto Body Repair 10S**
- **8880 Introduction to Heavy Industrial Technology 10S**

Sustainable Energy (W.C. Miller Collegiate, Altona)

The Sustainable Energy Technology Program is an 8 credit program offered in two levels over two semesters based at W.C. Miller Collegiate, Altona. The program offers a practical and exciting way to contribute to a healthier environment through the use of renewable, sustainable alternative energy systems. This program explores Manitoba's historical and current energy use and teaches skills related to the development, installation, and maintenance of sustainable energy technologies.

The Sustainable Energy Technician Program begins by grounding students in some historical aspects of energy use in Manitoba. Activities include:

- building fires from scratch (i.e. no matches or lighters);
- working with animal energy (for transportation and plowing);
- using traditional fuels (used to bake bread at the Neuberghal National Historic Site).

The focus of the program then switches from historical to current energy use including:

- learning trips to Manitoba Hydro facilities (e.g. museum and generating stations);
- an exploration of the sustainable energy scene in Manitoba with visits to a variety of places in Manitoba that are either using or developing sustainable energy technologies (e.g. The Forks, The Alternative Village at the University of Manitoba, Husky Ethanol Plant, the St. Joseph Wind Farm).

Students will learn how sustainable energy can be used to generate electricity, heat buildings, and power vehicles. This learning will be based on hands-on activities. Students will:

- compete in competitions such as the Skills Canada wind turbine competition;
- test various heating fuels;
- design and construct a solar greenhouse;
- build model hydrogen vehicles.

In addition to the hands-on learning activities there are opportunities to:

- become certified as a sustainable energy technology installer (e.g. solar and wind);
- earn first aid and fall arrest certifications through an overnight rock climbing excursion.

The Sustainable Energy Technician program helps prepare students for:

- entry-level positions with heating and plumbing companies that install sustainable energy technologies like geothermal and solar thermal units;
- careers with utility companies like Manitoba Hydro;
- post secondary diploma programs (e.g. wind technician diploma);
- post secondary degree programs related to sustainable energy (e.g. engineering).

The current generation will be instrumental in guiding the further development and acceptance of sustainable energy technologies. The Sustainable Energy Technician program will give students the skills and knowledge to start careers that impact important future decisions regarding our energy use.

Sustainable Energy course include:

Level 1

8233 Introduction to Sustainable Energy 20S

8234 Sustainable Energy: Electrical Systems 30S

8245 Sustainable Energy: Heating/Cooling Systems 30S

8246 Sustainable Energy: Transportation Systems 30S

Level 2

8279 Sustainable Energy: Solar Systems 40S

8292 Sustainable Energy: Wind Systems 40S

8293 Sustainable Energy: Biomass Systems 40S

8294 Sustainable Energy Applied Systems 40S

Welding (Morris School, Morris)

The Welding program provides students with the background, skills and knowledge required for careers in the welding workforce. Students completing this course may be ready to enter the workforce as production welders or enter into an apprenticeship agreement with an employer.

This program involves the joining and cutting of various metals using equipment of the trade. There are numerous welding processes, depending on the type of equipment and techniques used. Students are exposed to MIG, TIG and Arc welding as well as gas welding. In addition they are exposed to other types of metal working equipment such as presses, ironworkers, pipe bending equipment and plasma cutters using portable manual and fixed CNC equipment.

Students learn by doing. By studying the theory and then doing the related practical projects, students can achieve a high skill level. Once students have mastered the skills of a particular process they will reinforce this learning by designing and building projects which might include utility or custom-made trailers, ornamental railings and ironwork, gym equipment, and projects brought in from the community. Students are required to study related subjects such as safety, math, blueprint reading, and metallurgy to complement their practical work.

Completion of training in this program will improve student's chances of locating employment as an apprentice in the welding field. Students who have completed this program with an average of 70% or higher may qualify for standing for their Level I Apprenticeship Technical Training. Additional practical training hours can be acquired through the High School Apprenticeship Program (HSAP) - a high school, evening/weekend/summer work practicum recognized Apprenticeship MB.



The program will also assist in developing entry level skills for workers in a wide range of employment opportunities such as:

Construction Welders	Maintenance Welders	Specialty TIG Welders
Production Line Welders	Welding Inspectors	Welding Supplies Salesperson
Related professions such as: Drafting, Engineering and Architecture		

Welding Technology courses include:

ITT-Intro to Auto Body, Welding and Automotive Technology	Level 2
Intro. to Heavy Industrial Technology 10S	Positional Arc Welding 30S
Exploration of Welding Technology 10S	Intro. to MIG Welding 30S
Introduction to Auto Body Repair 10S	Intermed. MIG Welding 30S
Introduction to Automotive Technology 10S	Advanced Arc Welding 40S

Level 3

- Intro to TIG Welding 30S**
- Advanced MIG Welding 40S**
- Projects & Testing 40S**
- Applied Specialties 40S**