St Lawrence College – OYAP Course Descriptions

Welding – 456A - Cornwall

Start Date: Oct 12, 2026 – Dec 18, 2026

Credits Earned:
MTCU LEVEL 1 APPRENTICESHIP – CODE: 456A
3 HIGH SCHOOL MINISTRY DUAL CREDITS – CODE: TLA4Y
7 COLLEGE CREDITS – TOTAL OF 300 HOURS

WELD 1111 – TRADE PRACTICES (30 hours): This course focuses on safe material handling, workplace hazards, and various pieces of legislation governing working conditions in the welding and fabrication trade. Students are also introduced to measuring, hand, and power tools and to the basic arithmetic, calculations and systems of measurement routinely used in the workplace.

WELD 1112 – APPLIED BLUEPRINT READING (40 hours): This course content addresses basic drawing, sketching, and drafting and introduces layout and fitting in the welding and fabrication trade. Joint types, welding positions, and welding symbols are discussed and applied.

WELD 1113 – WELDING THEORY (40 hours): This course focuses on safe material handling, workplace hazards, and various pieces of legislation governing working conditions in the welding and fabrication trade. Students are also introduced to measuring, hand and power tools, and to the basic arithmetic, calculations, and systems of measurement routinely used in the workplace.

WELD 1114 – MATERIALS AND PROCESS QUALITY (30 hours): This course content introduces students to distortion, metallurgy, inspection and testing, and weld quality. The fundamental causes of distortion and the inherent effects and corrective measures are discussed. Students are also introduced to the characteristics of metals and alloys and the effects of welding heat. Destructive and non-destructive testing methods are reviewed, and weld quality, welding discontinuity, and welding procedures are explained.

WELD 1115 – SHEILDED METAL ARC WELDING PRACTICAL I (70 hours): In this shop course, students safely demonstrate the equipment set-up and the processes for fillet and groove welding of mild steel using the Shielded Metal Arc Welding (SMAW) process. Post-weld operations are performed as are routine and required equipment maintenance procedures.

WELD 1116 – GAS SHIELDED SEMI-AUTOMATIC WELDING PRACTICAL I (50 hours): In this shop course, students safely demonstrate the equipment set-up, selection of consumables, and the processes for fillet and groove welding of mild steel using the Gas Metal Arc Welding (GMAW) and Flux Cored Arc Welding (FCAW) processes. Post-weld operations are performed as are routine and required equipment maintenance procedures.

WELD 1117 - THERMAL CUTTING (30 hours): This In this course, students set up and operate manual oxy-fuel cutting equipment, plasma arc cutting equipment and air carbon arc gouging equipment in accordance with government safety regulations. Course content highlights safety-related concepts, equipment features and maintenance, cutting processes, and the correction of common cutting faults

Automotive Service Technician – 310S - Cornwall

Start date: Oct 26, 2026 – Dec 18, 2026

Credits Earned:
MTCU LEVEL 1 APPRENTICESHIP – CODE: 310S
2 HIGH SCHOOL MINISTRY DUAL CREDITS – CODE: TTE4Y
5 COLLEGE CREDITS – TOTAL OF 240 HOURS

Note: This programming is combined with the Motive Power Diploma program and OYAP students will be integrated with these students

MOTO 101 WORK PRACTICES (40 hours): This course provides students with an introduction to shop safety including the use of hand tools, power tools, and hoists and other lift equipment. Additionally, course content focuses on bearings, seals and sealants, precision measuring tools, oxy- acetylene welding and cutting and the use of computers for accessing trade-related information.

MOTO 102 – ENGINE SYSTEMS 1 (40 hours): Course content focuses on engine fundamentals, and the operating characteristics of the internal combustion engine and students are introduced to engine disassembly and reassembly and related manufacturing standards. Cylinder block assembly and applications are covered with students performing inspection and testing procedures. Additionally, crankshaft assemblies are discussed in relation to engine performance.

MOTO 103 – ELECTRICAL, ELECTRONICS & EMISSIONS SYSTEMS 1 (96 hours): This course introduces the student to electrical, electronic, electromagnetic, and fuel system fundamentals. Course content focuses on diagnostic test equipment, the operation, inspection, and testing of batteries, wiring schematics and component identification, and circuit repair and protection devices. Intake and exhaust, emission control and hybrid systems are discussed.

MOTO 104 – DRIVE TRAIN SYSTEMS (40 hours): Clutch assemblies and basic gear theory are introduced in this course. The fundamentals and operation of manual transmissions and transaxles and their inspection, testing, service and repair are covered.

MOTO 105 – SUSPENSION, STEERING AND BRAKESYSTEMS 1 (40 hours): This first course of three on suspension, steering, and brakes provides students with an introduction to suspension assemblies and their components, manual steering and linkage assemblies, and base brake system components and operation. Additionally, students are provided with the fundamentals of tire and wheel repair and servicing according to manufacturers' recommendations. Air brake adjustment and air brake chamber safety are also covered.

General Carpentry – 403A - Cornwall

Start date: Oct 26, 2026 – Dec 18, 2026

Credits Earned:
MTCU LEVEL 1 APPRENTICESHIP – CODE: 403A
2 HIGH SCHOOL MINISTRY DUAL CREDITS – CODE: TSA4Y
4 COLLEGE CREDITS – TOTAL OF 240 HOURS

CARP 150 SAFETY, MATERIAL, and TOOLS (72 hours + 96 shop hours): This course provides an introduction to the field of carpentry. Course content outlines the evolution and regulation of the trade and examines health hazards, safety risks and PPE (personal protective equipment). Access equipment including ladders and scaffolding is covered in detail as are rigging and hoisting. The application of materials in residential and commercial construction including wood and wood products is discussed. Joints, fasteners, and the selection, use, and maintenance of hand and power tools are explored.

CARP 151 PLAN, SPECIFICATION AND CODES (24 hours): This course defines the working relationships between the stakeholders involved in the construction process including owners, architects, engineers, contractors, subcontractors, and controlling authorities. Course content also introduces different types of plans and drawings and their interpretation as well as freehand sketching.

CARP 152 ESTIMATING, CALCULATIONS AND LAYOUT I (32 hours): This course focuses on the use of trade calculations to solve problems and explores basic geometric procedures.

CARP 153 WELDING FOR GENERAL CARPENTRY APPRENTICES (16 hours): This course provides students with an introduction to oxy-acetylene cutting and the shielded metal arc welding (SMAW) process for non-structural components. Related safety practices and general operating principles are emphasized.

Electrician – Construction and Maintenance – 309A - Cornwall

Start date: Sept 8, 2026 – Nov 6, 2026

Credits Earned:
MTCU LEVEL 1 APPRENTICESHIP – CODE: 309A
2 HIGH SCHOOL MINISTRY DUAL CREDITS – CODE: TNA4Y
5 COLLEGE CREDITS – TOTAL OF 270 HOURS

ELEC 1000 – Communication and Documentation: Upon successful completion, the apprentice is able to demonstrate communication techniques, use communication tools and computer software applications as well as describe documentation requirements (sector specific), strategies for learn

ELEC 1001Trade Practices: Upon successful completion, the apprentice is able to summarize trade specific practices related to safety requirements and the use of tools and equipment.

ELEC 1002 Introduction to the Canadian Electrical Code: Upon successful completion, the apprentice is able to navigate and apply sections of the Canadian Electrical Code (CEC).

ELEC 1003 drawings, Specifications, and Standards fundamentals: Upon successful completion, the apprentice is able to interpret and use information provided from drawings, specifications and standards for electrical installation and maintenance (single-phase). The apprentice is also able to create drawings and schedules.

ELEC 1004 – Electrical Fundamentals: Upon successful completion, the apprentice is able to apply electrical principles, concepts and associated calculations as well as demonstrate the following; how to measure circuit parameters, how to build series, parallel and combination circuits and the relationship between work, power and energy.

ELEC 1005 – Installation and Maintenance Methods: Upon successful completion, the apprentice is able to demonstrate the installation and maintenance of single-phase service, distribution and branch circuit equipment as well as develop electrical schematics.

ELEC 105 – Instrumentation: The student will be able to able to explain common terms used in instrumentation systems; work with the SI and Imperial system of measurement for pressure and temperature; convert between the four temperature scales; describe the operation, applications and limitations of thermocouples, thermistors, and RTD's; install, connect and test thermocouples, thermistors and RTD's; identify deformation elements of pressure measuring equipment.

Industrial Mechanical Millwright – 433A - Kingston

Start date: Sept 8, 2026 – June 27, 2026 - Day Release

Credits Earned:
MTCU LEVEL 1 APPRENTICESHIP – CODE: 433A
2 HIGH SCHOOL MINISTRY DUAL CREDITS – CODE: TRC4Y
5 COLLEGE CREDITS – TOTAL OF 240 HOURS

MILL 36 - MAINTENANCE PRACTICE BASIC: This course allows the student to apply the practical application of maintenance functions as they apply to machinery and plant equipment (i.e., equipment inspection and lubrication, installation of new equipment and alterations to existing equipment and repairing of primary and secondary machinery).

MILL 39 - MAINTENANCE THEORY BASIC: The student will develop an academic skill that is related to the maintenance functions of industry in order that skilled assessments can be made of the needs to properly maintain the physical plant and related services.

MILL 33 - TRADE CALCULATIONS BASIC: The student will perform the basic trade calculations and demonstrate and apply the theory of torque and the use of simple hand calculations.

MILL 30 - OXYACETYLENE WELDING: The student will be able upon completion of the course to identify oxyacetylene welding equipment and accessories, describe various oxyacetylene processes, weld mild steel in a flat position using oxyacetylene with filler rod making clean uniform welds and cut milk steel stock using same equipment resulting in a clean uniform cut.

MILL 42 - BLUEPRINT READING: The student will learn to read basic blueprints, drawings, and free hand sketches, make elementary drawings, complete an assigned work project, and use drawing instruments for orthographic and isometric projections, etc.

General Carpentry – 403A - Kingston

Start date: Oct 26, 2026 – Dec 18, 2026

Credits Earned:
MTCU LEVEL 1 APPRENTICESHIP – CODE: 403A
2 HIGH SCHOOL MINISTRY DUAL CREDITS – CODE: TSA4Y
4 COLLEGE CREDITS – TOTAL OF 240 HOURS

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CARP 152 ESTIMATING, CALCULATIONS AND LAYOUT I (32 hours): This course focuses on the use of trade calculations to solve problems and explores basic geometric procedures.

CARP 153 WELDING FOR GENERAL CARPENTRY APPRENTICES (16 hours): This course provides students with an introduction to oxy-acetylene cutting and the shielded metal arc welding (SMAW) process for non-structural components. Related safety practices and general operating principles are emphasized.

Plumbing – 306A - Kingston

Start date: Oct 26, 2026 – Dec 18, 2025

Credits Earned:
MTCU LEVEL 1 APPRENTICESHIP – CODE: 306A
2 HIGH SCHOOL MINISTRY DUAL CREDITS – CODE: TSB4Y
5 COLLEGE CREDITS – TOTAL OF 240 HOURS

PLUM1 - PLUMBING THEORY: At each level these objectives will provide the apprentice with the essential theoretical knowledge and skills to complement their practical on-the-job training with the employer. Topics covered in the basic theory include valves, building drainage, venting, plumbing codes and stacks and wastes.

PLUM2 - PLUMBING SHOP: This course will help develop the apprentice to a high standard of craftsmanship and problem-solving skills with particular emphasis at the Basic level on the installation of steel, cast iron and plastic piping and rough-in procedures involving drains, vents and water lines.

PLUM3 - WELDING FOR PLUMBING APPRENTICES: This basic course will introduce the student to the fundamentals of torch welding and the cutting of mild steel. Topics covered will include safety procedures; correct use of equipment; oxyacetylene cutting and welding mild steel. The course heavily emphasizes hands-on techniques.

PLUM80 - MATHEMATICS FOR PLUMBING APPRENTICES: This course will allow the trades student to solve trade related problems involving linear measurement, area of surface, and volume of space in both metric and imperial measure. The student will also develop skills in the application of basic principles of geometry.

PLUM1003 - BLUEPRINT READING FOR PLUMBERS: This course introduces the apprentice to the skills required to read and interpret mechanical blueprints. The student will learn to prepare sketches and understand the different types of drawings, views, notes, and title blocks as applied to a residential site.

Electrician – Construction and Maintenance – 309A - Kingston

Start date: March 22, 2027 - May 21, 2027

Credits Earned:
MTCU LEVEL 1 APPRENTICESHIP – CODE: 309A
2 HIGH SCHOOL MINISTRY DUAL CREDITS – CODE: TNA4Y
5 COLLEGE CREDITS – TOTAL OF 270 HOURS

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