OYAP: Electrician: Construction

ONTARIO YOUTH APPRENTICESHIP PROGRAM:
Students will be integrated with regular college apprentices to earn their Level 1 Apprenticeship. This includes alternate delivery in TEAMS and in-person shop time.

CAMPUS: Kingston

SEATS: 10 Students from surrounding high schools will participate

DURATION: 8 weeks from March 28th, 2022 to May 22nd, 2022

CREDITS EARNED:

- MTCU LEVEL 1 APPRENTICESHIP – CODE: 309A
- 2 SECONDARY SCHOOL MINISTRY DUAL CREDITS – CODE: TNA4Y
- 5 COLLEGE CREDITS – TOTAL OF 240 HOURS

COLLEGE CREDITS INCLUDE:

ELEC 101 Canadian Electrical Code
The student will be able to apply the requirements of the Canadian Electrical Code - Part 1 (CEC) to identify and interpret the general requirements of the CEC; identify and interpret the CEC requirements for conductor ampacity including free air, above and underground installations, grounding and bonding, wiring methods, class 1 and 2 circuits, receptacles and lighting in residential occupancies, single-dwelling and dwelling units, pools, tubs and spas, and temporary installations; and be able to calculate the service requirements for a residential occupancy, single-dwelling and row housing.

ELEC 102 Prints
The student will be able to able to identify and interpret the alphanumerical lines; use the metric and imperial scales and be able to convert between them; obtain information from architectural, structural, and mechanical drawings, specifications, building code, and CEC to complete an electrical installation for a single-dwelling; draw and label a panel schematic for a single-dwelling; complete a material take-off for a single-dwelling.

ELEC 103 – Electrical Theory
The student will be able to able to identify and interpret the alpha numerical lines; use the metric and imperial scales and be able to convert between them; obtain information from architectural, structural and mechanical drawings, specifications, building code and CEC to complete an electrical installation for a single-dwelling; draw and label a panel schematic for a single-dwelling; and complete a material take-off for a single-dwelling.

ELEC 104 – Installation Methods
The student will be able to able to demonstrate the operation of common hand and power tools; install common switching devices, outlets and enclosures; correctly terminate conductors; demonstrate the installation procedures for non-metallic sheathed cable, armoured cable, mineral insulated cable, rigid conduits, flexible conduits, liquid-tight conduit, electrical metallic tubing, and electrical non-metallic tubing, including supports and tools required; install a 100 amp. residential consumer's service and associated branch circuits; layout a service mast installation; install door, signal and extra-low voltage lighting devices; identify and terminate copper communication and hard-wired cables.

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; determine the accuracy of pressure measuring equipment; explain relationships between gauge and absolute pressure, and vacuum; explain the operation, construction and applications of typical industrial pressure sensors; identify ISA instrumentation symbols and draw basic process (P) and Instrumentation (I) diagrams for pressure and temperature devices; explain the operation of light and sound meters.

ELEC 106– Electronics
The student will be able to able to identify schematic symbols for North American and European basic logic gates; describe the operation of basic logic gates; use basic logic gates to create digital logic circuits; state Boolean equations for simple logic gates; design and test combination logic circuits; describe the voltage requirements for TTL and CMOS logic circuits; demonstrate the use of R.S. and D type flip-flop; use a logic probe to troubleshoot a digital circuit; demonstrate procedures for soldering and de-soldering; state the standard resistor colour code; connect resistors in series, parallel and combination circuits; describe the properties of N and P type semiconductor materials; explain current, voltage and biasing requirements for silicon and germanium diodes and LED's; demonstrate the operation of a bipolar diode; identify the symbols for and describe the operation and biasing for NPN and PNP Bipolar transistors; demonstrate how a transistor can be used as a switch; demonstrate the common applications for an opto-coupler.

All students must have steel-toe safety boots to participate in this program.

SLC ORIENTATION DATE: TBD

IMPORTANT DATES: FALL SEMESTER

March 28, 2022 First day of classes @ SLC

PA DAYS: During scheduled board PA days, St. Lawrence College classes are still in session.
You are expected to attend if you have an SLC class scheduled on this day.

SLC.ME – APPLYING TO GRADUATE:
Students in Level 1 Apprenticeship programs must apply to graduate through SLC.me after successful completion of their college courses. If students apply to graduate they will receive a certificate from St. Lawrence College in the mail *(please ensure your address is current and correct with the Dual Credit/PASS office)*. When students complete their Level 3, students can apply to graduate and attend the convocation ceremony.

FOR MORE INFORMATION:
Website: stlawrencecollege.ca/dualcredit
Email us at: DualCredit@sl.on.ca

IN PARTNERSHIP WITH:

SCWI/PASS / St. Lawrence College /Algonquin Lakeshore Catholic District School Board / Catholic District School Board of Eastern Ontario / Limestone District School Board / Upper Canada District School Board