

# WELDING TECHNIQUES

**Program:** WETC

**Credential:** Ontario College Certificate

**Delivery:** Full-time

**Length:** 2 Semesters

**Duration:** 1 Year

**Effective:** Fall 2023

**Location:** Midland, Owen Sound

## Description

Students engage in both theoretical and hands-on, practical training to perform most basic welding techniques. Upon completion of the program, students are eligible to test for Canadian Welding Bureau Qualifications based on their level of expertise. It is expected that most of the graduates will be prepared to enter the workforce as a Welder following the successful completion of this program.

Students develop skills and knowledge in Shielded Metal Arc Welding, Gas metal Arc Welding, Flux Core Arc Welding, Metal Core Arc Welding, Gas Tungsten Arc Welding, Oxy-fuel fusion & Braze Welding, Oxy-fuel and Plasma Cutting, fabrication and layout techniques, health and safety, metallurgy, blueprint reading and sketching, applied math, communications and introduction to computers.

## Career Opportunities

Graduates may find a range of occupations in the welding field, including manufacturing and fabricating, automotive and heavy equipment production, automation, various trades unions and construction. Self-employment is another viable option upon graduation.

## Program Learning Outcomes

The graduate has reliably demonstrated the ability to:

- perform work responsibly and in compliance with the Occupational Health and Safety Act;
- interpret engineering drawings and blueprints and produce basic graphics required by industry;
- recognize and understand use of welding symbols;
- use layout and fabrication processes typical to the industry to determine correct form with accuracy;
- select appropriate tools and devices to perform mathematical calculations and technical measurements for successful completion of a project;
- perform weld applications utilizing Shielded Metal Arc Welding, Gas Metal Arc Welding Flux Core Arc Welding, Metal Core Arc Welding, Gas Tungsten Arc Welding, And Oxy-fuel Fusion and Braze Welding.
- use welding techniques according to industry standards;
- create high quality welds on various types of material and create joints in the flat, horizontal, vertical and overhead positions;
- identify how to prevent weld defects and define procedures for correction to ensure weld quality;
- communicate clearly, concisely, and correctly in the written, spoken and visual form that fulfils the purpose and meets the need of the audience;

- contribute to the development, implementation and maintenance of environmentally sustainable practices within the welding industry;
- discover business skills and career opportunities that could lead to entrepreneurial opportunities.

## Program Progression

The following reflects the planned progression for full-time offerings of the program.

### Fall Intake

- Sem 1:** Fall 2023
- Sem 2:** Winter 2024

## Admission Requirements

OSSD or equivalent with

- Grade 12 English (C or U)

Mature students, non-secondary school applicants (19 years or older), and home school applicants may also be considered for admission. Eligibility may be met by applicants who have taken equivalent courses, upgrading, completed their GED, and equivalency testing. For complete details refer to: [www.georgiancollege.ca/admissions/academic-regulations/](http://www.georgiancollege.ca/admissions/academic-regulations/) (<https://www.georgiancollege.ca/admissions/academic-regulations/>)

Applicants who have taken courses from a recognized and accredited post-secondary institution and/or have relevant life/learning experience may also be considered for admission; refer to the Credit for Prior Learning website for details: [www.georgiancollege.ca/admissions/credit-transfer/](http://www.georgiancollege.ca/admissions/credit-transfer/) (<https://www.georgiancollege.ca/admissions/credit-transfer/>)

## Graduation Requirements

- 11 Program Courses
- 1 Communications Course
- 1 General Education Course

## Graduation Eligibility

To graduate from this program, the passing weighted average for promotion through each semester, and to graduate is 60%. Additionally, a student must attain a minimum of 50% or a letter grade of P (Pass) or S (Satisfactory) in each course in each semester unless otherwise stated on the course outline.

## Program Tracking

The following reflects the planned course sequence for full-time offerings of the Fall intake of the program. Where more than one intake is offered contact the program co-ordinator for the program tracking.

Semester 1		Hours
Program Courses		
WETC 1002	Trade Calculations for Welders	42
WETC 1005	Metallurgy for Welding	42
WETC 1013	Welding and Cutting Processes	42
WETC 1016	Trades Practice and Safety	14
WETC 1017	Blueprint Reading for Metal Trades	56
WETC 1018	Shielded Metal Arc Welding Basics	70

WETC 1019	Gas Metal Arc Welding	56
<b>Hours</b>		<b>322</b>
<b>Semester 2</b>		
Program Courses		
WETC 1014	Layout and Fabrication	56
WETC 1020	Shielded Metal Arc Welding Intermediate 2	70
WETC 1021	Flux Core Arc Welding/Metal Core Arc Welding	56
WETC 1022	Gas Tungsten Arc Welding	56
Communications Course		
Select 1 course from the communications list during registration.		42
General Education Course		
Select 1 course from the general education list during registration.		42
<b>Hours</b>		<b>322</b>
<b>Total Hours</b>		<b>644</b>

## Graduation Window

Students unable to adhere to the program duration of one year (as stated above) may take a maximum of two years to complete their credential.

After this time, students must be re-admitted into the program, and follow the curriculum in place at the time of re-admission.

**Disclaimer:** *The information in this document is correct at the time of publication. Academic content of programs and courses is revised on an ongoing basis to ensure relevance to changing educational objectives and employment market needs.*

*Program outlines may be subject to change in response to emerging situations, in order to facilitate student achievement of the learning outcomes required for graduation. Components such as courses, progression, coop work terms, placements, internships and other requirements may be delivered differently than published.*