



Education Micro-Credentials

CATALOGUE AND GUIDE

MC-CAT

EDITION 6 | August 2026 | ©2023 CWB Group Industry Services



RECOGNIZED PATHWAYS AND COURSES

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Micro-Credential Primer

WHAT IS A MICRO-CREDENTIAL?

Micro-credentials are compact, focused courses that offer affordable and flexible options for learning and professional development. Each micro-credential is independent, and may be completed in any order as learners pursue personal goals or career growth.

Choose what to learn and when. Micro-credentials allow learners to fit education into busy schedules and other obligations. There are no course schedules or classes to attend; log in and learn at your own pace and on your own time.



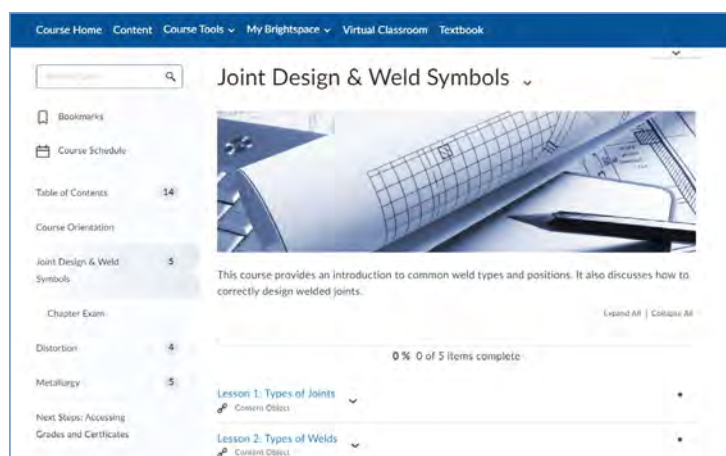
ONLINE LESSONS, ON YOUR TIME

Each micro-credential allows learners to explore a subject in detail through engaging online lessons. Put that knowledge to the test with interactive exercises, knowledge checks, and exams. Content is accessible for hobbyists looking to improve their skills, yet detailed for professionals seeking to stay current in their field or make a career change.

Online lessons bring learning to life with animations and video, and a variety of interactive activities enable you to engage directly with key

concepts. Return to and review previous lessons to prepare for quizzes and exams designed to challenge what you've learned and provide immediate feedback on your responses.

Dive deeper into each course with comprehensive digital textbooks, links to industry articles or videos, and other student resources. All content is available for the duration of the course, and can be accessed at any time from your phone, tablet, laptop or other digital device.



EASY NAVIGATION

Intuitive controls and customizable settings ensure a comfortable experience and allow students to focus on learning.

BOOKMARKS

Create custom lesson bookmarks to flag important content, or to easily return to where you left off.

ACCESSIBLE CONTENT

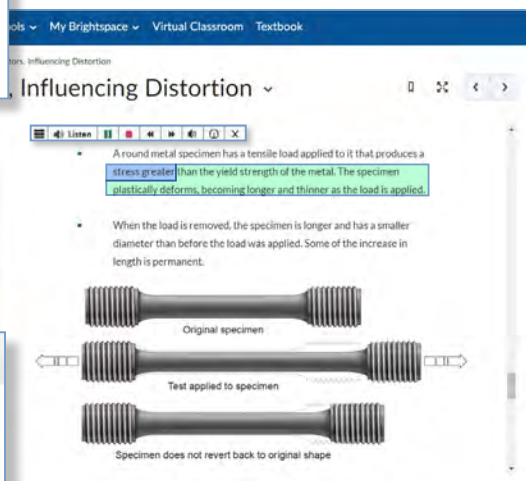
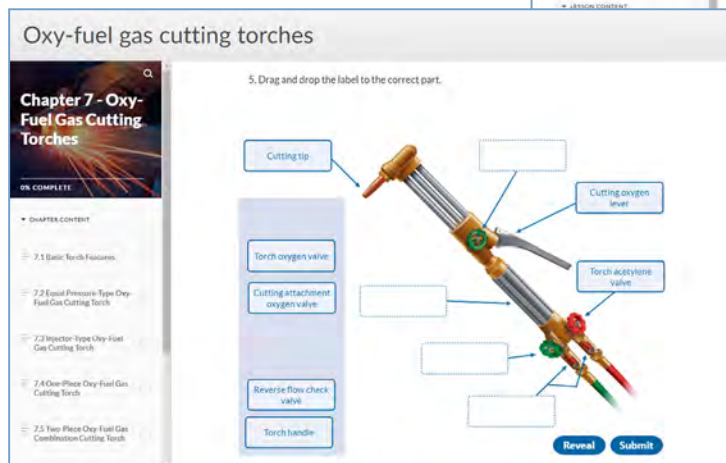
Have text read aloud with the built-in [WebReader](#) tool. Choose from a variety of voices, reading speeds, and highlighting options.

LANGUAGE SUPPORT

WebReader supports a built-in dictionary for easy reference, and can translate highlighted passages.

ACTIVE LEARNING

Replayable lessons, scenarios and knowledge checks reinforce key concepts before proceeding to the next lesson.



INTERACTIVE ACTIVITIES

Engage learners with a variety of interactive activities, all designed to reinforce key concepts and increase information retention.

IMAGES AND MULTIMEDIA

Modern, full-colour images, animations and videos help students visualize information, engage with lessons, and reinforce concepts.

DIVE DEEPER WITH DIGITAL TEXTBOOKS

Access to digital textbooks, powered by the VitalSource Bookshelf platform, is included with all micro-credential courses. Textbooks are integrated directly into the Learning Resources online portal – with no additional log-in required. Digital textbooks are viewed directly in your browser and require no additional plugins or apps.

Take advantage of powerful features like easy navigation and search functions, annotation and flashcard note-taking tools, and adjustable text-to-speech options. All digital textbooks meet industry standards for accessibility, and can be viewed online or downloaded for offline viewing.

TABLE OF CONTENTS

Locate topics with the slide-out table of contents. Expand and jump to sections and sub-sections anytime.

TEXT TO SPEECH

In-browser, text-to-speech tool reads textbook content. Customize playback with a variety of voices and adjustable reading rates.

REVIEW AND STUDY

Search for, jump to, and review highlighted material and notes when it's time to study.

The screenshot displays the 'Aluminum Fundamentals' digital textbook interface. On the left, a 'Table of Contents' sidebar lists sections: Aluminum Fundamentals (5), Section 1 Producing and Casting Aluminum (6), Section 2 Properties of Aluminum (17), Section 3 Safety, Storage, and Handling (25), Section 4 Preparation, Cleaning, and Finishing Techniques (28), Section 5 Welding Aluminum (31), and Section 6 Weldability of Aluminum (34). The main content area shows 'SECTION 1 Producing and Casting Aluminum' with a sub-section 'Aluminum Production'. It includes a 'Refining Aluminum' section with a list of impurities (45-60% aluminum oxide, 3-25% iron oxide, 2.5-18% silicon oxide, 2-3% titanium oxide, and minimal zinc compounds) and a 'Refining Process: Stage One' section. A 'Workbook' sidebar on the right contains 'Annotations', 'Bookmarks', and 'Flashcards'. It also has a 'Highlights & Notes' section with a list of highlights and notes, including: 'The one source for aluminum is a rock called bauxite', 'The reaction between the aluminum compounds and caustic soda produces a concentrated solution of sodium aluminate', 'Since bauxite contains only 50% alumina, it must undergo a preliminary treatment to remove the bulk of the impurities in order to make it pure alumina.', 'Aluminum oxide is a very stable compound. As such, it requires a considerable amount of energy to reduce the alumina to aluminum metal. The reduction of alumina to aluminum is conducted in a smelter cell through the hall-héroult process, as shown in FIG. 03.', 'One advantage of aluminum is its recyclability, as it can be remelted many times for repetitive use.', and 'Sources of Feedstock for Recycling'. A callout box at the bottom right highlights 'Refining process: Step 6' with a note: 'The pure alumina is drawn from the tank bottom, washed to remove contaminants, and then put into a rotary kiln (calcination) where it is calcined at around 2000°F (1100°C). The calcination removes all the chemically attached water, yielding a fine white powder of aluminum oxide.'

CREATE FLASHCARDS

Create custom flashcard decks as a study aid. When it's time to review, use the color tags to flag difficult passages for study, or check off progress.

HIGHLIGHT KEY MATERIAL

Get organized with colour-coded highlight options, or record and edit notes on the go.

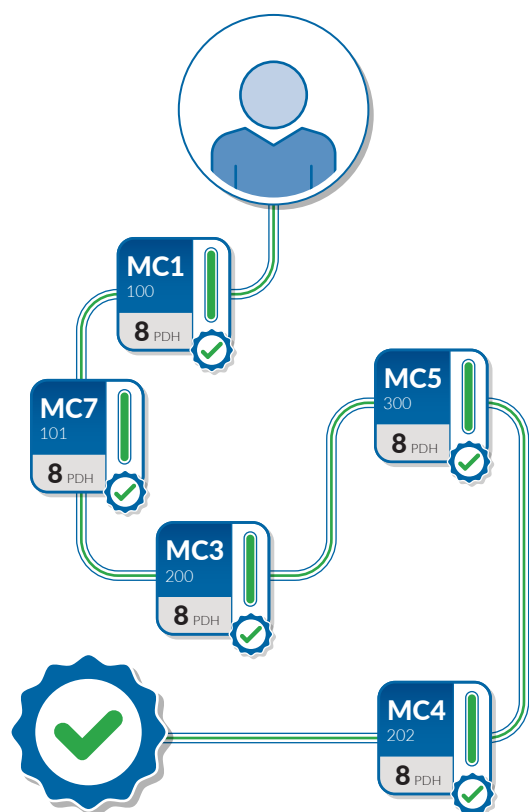
EASY NAVIGATION

Adjust view settings and perform common tasks with keyboard inputs. Jump to, and bookmark, important pages.

OFFLINE ACCESS

Download textbooks for offline access anywhere, anytime. Add downloaded books or sections to your browser's bookmarks for easy access later.





GET WHERE YOU NEED TO GO WITH PATHWAYS

Carve your own path to grow your career. Stack micro-credentials to build on knowledge or branch out and explore new learning opportunities.

Defined stacks of micro-credential courses are called pathways, and provide a clear route to recognized, expert-level knowledge sets, with some offering paths to new or advanced careers.

There are two types of pathways. Certification pathways provide a clear route for those seeking to progress their career as a certified welding inspector or welding supervisor. Recognized pathways link courses that combine to provide complimentary knowledge sets, providing job-ready skills in existing or future positions.

Whether choosing a defined pathway or forging their own, learners have the flexibility and control to guide their own development.



PDHS, CERTIFICATES, AND BADGES

Completing a micro-credential course awards a certificate of completion and professional development hours (PDHs), which can be used to re-certify or satisfy other professional requirements. Share your achievements on social and professional networks with unique online badges that validate your personal knowledge and skill sets.



DRLF-101

LEVEL 100 BADGES

Level 100 courses are introductory and provide basic concepts and skills.



DRLF-201

LEVEL 200 BADGES

Level 200 courses provide an intermediate experience that builds on existing knowledge.



DINT-301

LEVEL 300 BADGES

Level 300 courses are for professionals looking to upgrade skills and gain expertise.



LEVEL 1 INSPECTOR

PATHWAY BADGES

A special badge is awarded upon completion of all courses in a given pathway.



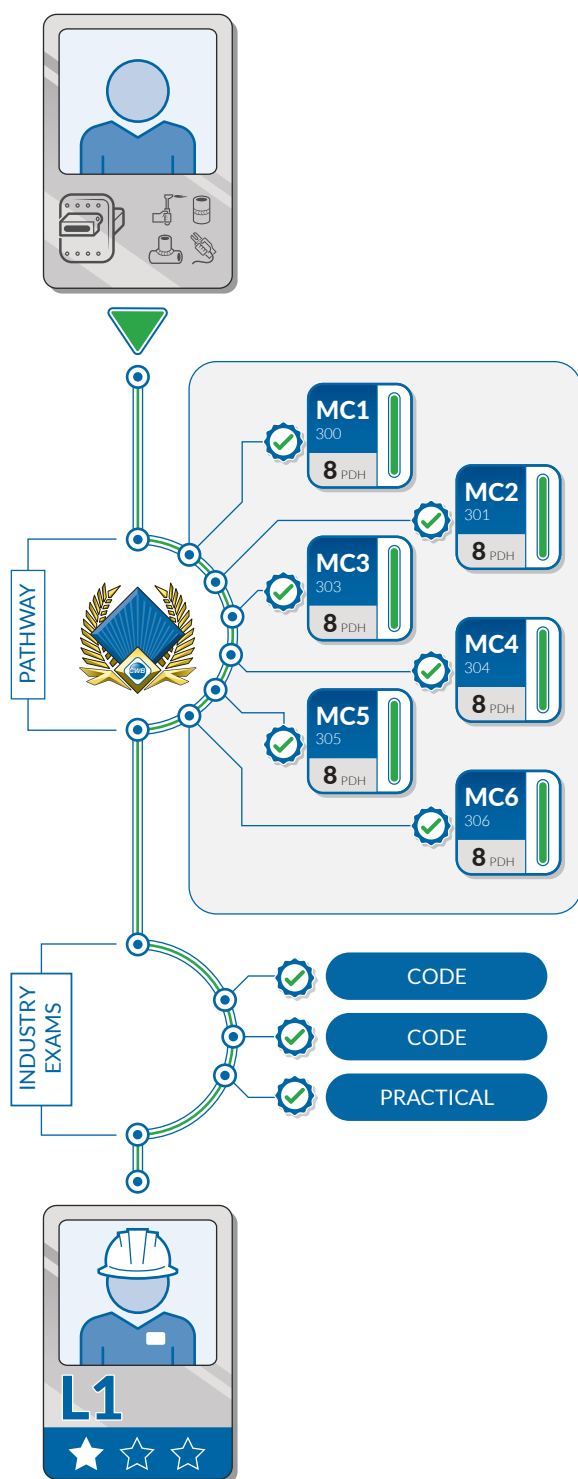
DELIVERY AND ACCESS

CWB Education Learning Resources micro-credential courses are self-directed and can be taken asynchronously as standalone offerings through the CWB website. All courses include tutorial time with an instructor, digital textbooks, badges, certificates, and online lessons.

Upon successful completion and achieving 70% or above on the course exam, you'll receive a certificate of course completion and be awarded a set number of PDHs.

Powered by D2L's Brightspace Learning Management System, once enrolled you'll have 90 days to access digital books and other course material, and complete all online lessons and exams.

Certification Pathways and Courses



Certification pathways identify specific micro-credentials that support knowledge and skill sets critical to prepare and qualify for the Welding Supervisor exams, or the Level 1, 2, and 3 Welding Inspector certification exams. Individuals may complete the courses in any order and at their own pace.

Successful completion of the course material and course examinations provides exemption from writing the closed book CSA W178.2 certification examination on the fundamental principles and practices of welding, quality control, and welding inspection, resulting in the candidate only needing to complete the two code exams and the Practical Exam for CSA Level 1 Inspector.

Certification pathways and courses related to them are identified on the following pages.

Certification Pathways	9
Level 1 Welding Inspector	9
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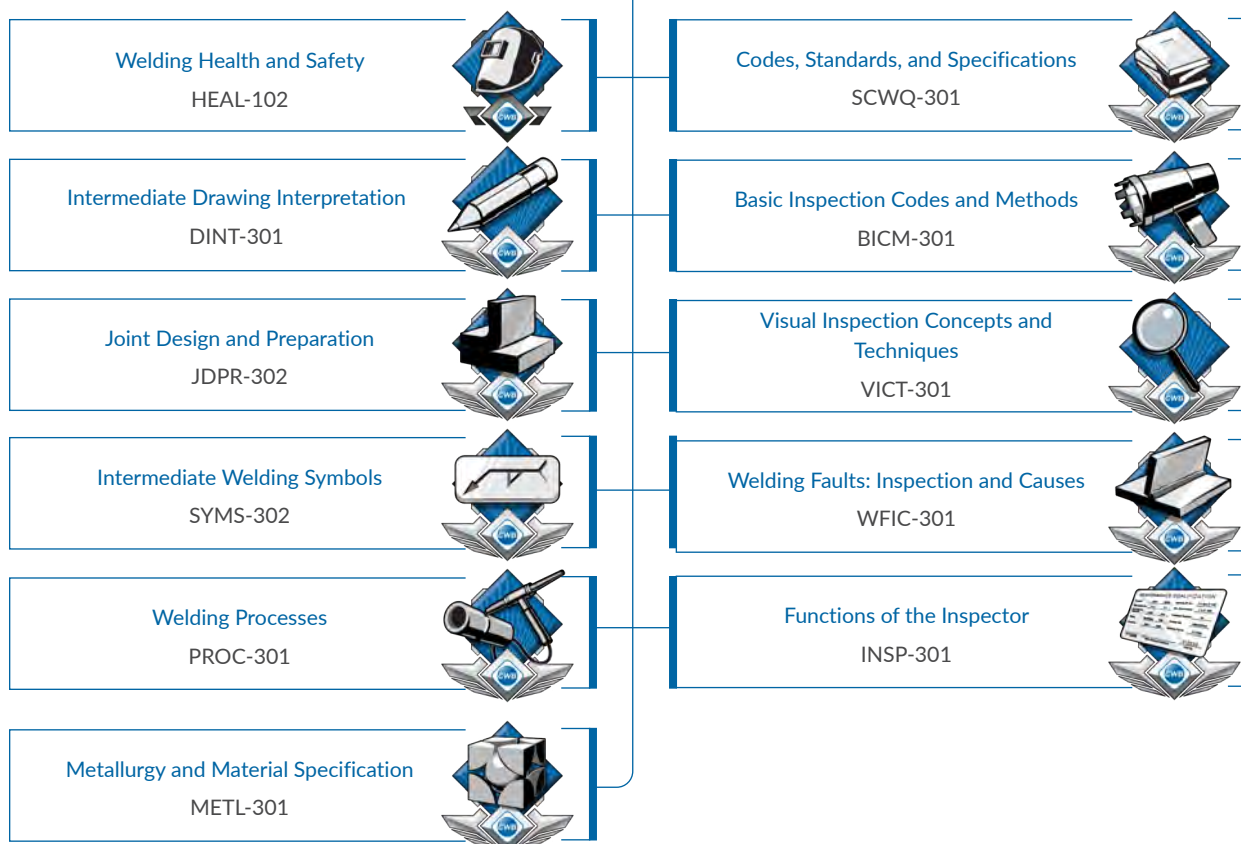


For more information about certification services, please [contact us](#) by email, phone, or web chat by using the code on the left.

Certification Pathways

LEVEL 1 WELDING INSPECTOR

This pathway is designed for candidates who want to increase their knowledge of metallurgy, inspection and testing techniques. This is your first step to advancing your career and increasing your earning potential.



NOTE

In addition to completion of these courses and course exams, learners looking to become certified to Level 1 Welding Inspector must complete the requisite application and forms. Scan the code on the left for [more information](#) on the certification process.

LEVEL 2 WELDING INSPECTOR

This pathway is designed for Level 1 Welding Inspectors who want to further increase their knowledge of inspection and testing techniques.



NOTE

In addition to completion of these courses and course exams, learners looking to become certified to Level 2 Welding Inspector must complete the requisite application and forms. Scan the code on the left for [more information](#) on the certification process.

LEVEL 3 WELDING INSPECTOR

This pathway is designed for Level 2 Welding Inspectors seeking certification to CSA Standard W178.2 Level 3 or who want to further increase their knowledge of welding metallurgy across a variety of material types and be introduced to quality management.



The Impact of Structure on Weldability
STRU-301



Welding Metallurgy: Steels
METL-306



Welding Metallurgy:
Non-Ferrous Metals
METL-307



Welding Metallurgy: Aluminum
METL-308



Welding Metallurgy: Cast Iron
METL-309



Aluminum Fundamentals
ALUM-201



Quality Management Basics
QUAL-301



NOTE

In addition to completion of these courses and course exams, learners looking to become certified to Level 3 Welding Inspector must complete the requisite application and forms. Scan the code on the left for [more information](#) on the certification process.

WELDING SUPERVISOR STEEL (WSS)

This pathway provides candidates with foundational knowledge of shop certification requirements, welder and procedure testing, pre-qualification processes, common weld faults, quality control practices, standard inspection methods, and the basics of welding symbols.



Intermediate Welding Symbols
SYMS-302



Welding Faults: Inspection and Causes
WFIC-301



Quality Control and Inspection Methods
QCIM-303



Navigation of Codes and Standards
NAVI-301



CSA W47.1 Certification of
companies for fusion welding of steel:
Interpretation and Application
W471-304



Welding Procedure Data Sheets (WPDS):
Interpretation and Application
WPDS-301



CSA W59 Welded Steel Construction:
Interpretation and Application
W59-303

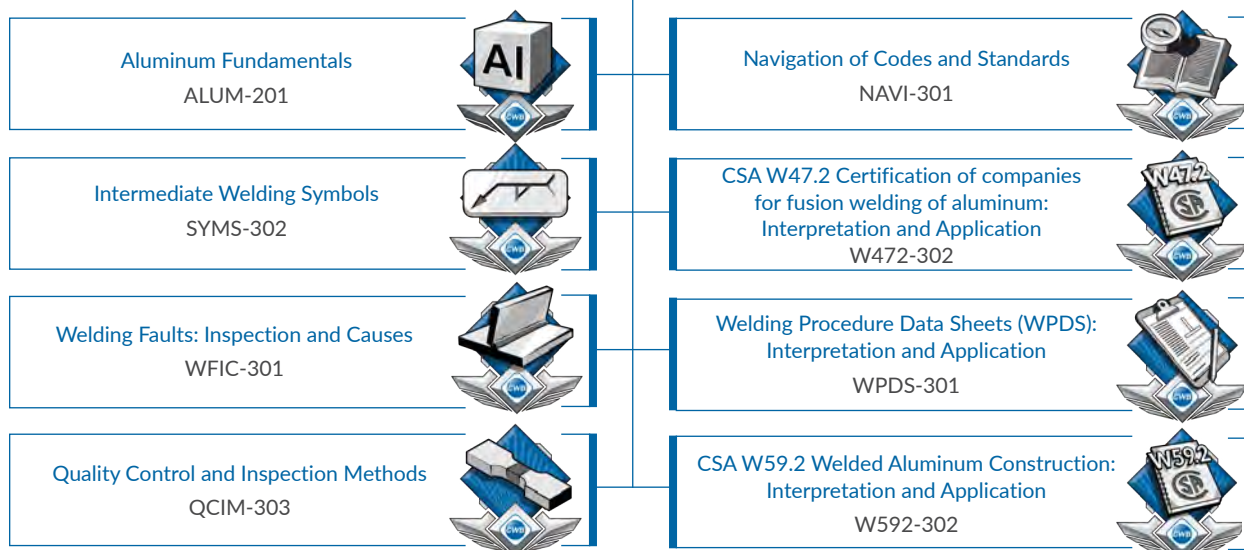


NOTE

Learners looking to become Welding Supervisors must complete the requisite series of exams, application, and forms. Scan the code on the left for [more information](#) on the certification process.

WELDING SUPERVISOR ALUMINUM (WSA)

This pathway provides candidates with foundational knowledge of shop certification requirements, welder and procedure testing, pre-qualification processes, common weld faults, quality control practices, standard inspection methods, the basics of welding symbols, and aluminum fundamentals.



NOTE

Learners looking to become Welding Supervisors must complete the requisite series of exams, application, and forms. Scan the code on the left for [more information](#) on the certification process.

List of Certification Micro-credentials

ALUMINUM FUNDAMENTALS



COURSE INFO

This is an intermediate level course focusing on comprehensive knowledge of the production of aluminum, aluminum properties, safety considerations, handling and material preparation, aluminum designations, and more.

8 PDHs | \$145

DETAILS

CODE
ALUM-201

LANGUAGES AVAILABLE
English

PATHWAY
Inspector Level 3

PRE-REQUISITE
None

BASIC INSPECTION CODES AND METHODS



COURSE INFO

This is a professional level course focusing on comprehensive knowledge of basic inspection codes and methods. Topics include the qualifications, functions, and duties of a welding inspector, describing the different stages of welding inspection, and the principles, techniques, and applications of non-destructive testing methods.

8 PDHs | \$305

DETAILS

CODE
BICM-301

LANGUAGES AVAILABLE
English, French

PATHWAY
Inspector Level 1

PRE-REQUISITE
None

CODES, STANDARDS, AND SPECIFICATIONS



COURSE INFO

This is a professional level course focusing on comprehensive knowledge of codes, standards, and specifications related to welding. Topics include identifying the primary agencies that set codes and standards, identifying and describing welding codes and standards used in North America, and describing the responsibilities of the CWB Group.

8 PDHs | \$305

DETAILS

CODE
SCWQ-301

LANGUAGES AVAILABLE
English, French

PATHWAY
Inspector Level 1

PRE-REQUISITE
None

CSA W47.1 CERTIFICATION OF COMPANIES FOR FUSION WELDING OF STEEL: INTERPRETATION AND APPLICATION



COURSE INFO

This is a professional-level course that provides an overview of CSA W47.1, with an emphasis on its use in the welding industry. It explores the various clauses, providing a detailed look at the more important aspects of each. As well, it provides demonstrations of how to navigate the standard, helping the user understand where to start their search and when and how to use the cross-references they encounter.

24 PDHs | \$409

DETAILS

CODE

W471-304

LANGUAGES AVAILABLE

English, French

PATHWAY

WSS

PRE-REQUISITES

DINT-301, JPDR-301, NAVI-301, QCIM-303, SCWQ-301, SYMS-302, WFIC-301

CSA W47.2 CERTIFICATION OF COMPANIES FOR FUSION WELDING OF ALUMINUM: INTERPRETATION AND APPLICATION



COURSE INFO

This professional-level course offers a comprehensive overview of CSA W47.2, with a focus on its application in the aluminum welding industry. It walks through the standard's key clauses, highlighting their most significant requirements and implications. The course also includes practical demonstrations on navigating the code, showing users where to begin their search and how to understand and apply cross-references effectively.

20 PDHs | \$409

DETAILS

CODE

W472-302

LANGUAGES AVAILABLE

English, French

PATHWAY

WSA

PRE-REQUISITES

DINT-301, JPDR-301, NAVI-301, QCIM-303, SCWQ-301, SYMS-302, WFIC-301

CSA W59 WELDED STEEL CONSTRUCTION: INTERPRETATION AND APPLICATION



COURSE INFO

This course is an in-depth exploration of CSA Standard W59 Welded steel construction. Each clause is examined and supported with knowledge check quizzes and/or practice activities based on industry examples that require navigation of the standard. These navigation skills are put into practice with 2 scenarios that require navigation of the entire standard to determine the answers. The course concludes with a final exam that simulates the open book certification exam.

28 PDHs | \$409

DETAILS

CODE

W59-303

LANGUAGES AVAILABLE

English, French

PATHWAY

WSS

PRE-REQUISITES

BICM-301, DINT-301, JPDR-301, SYMS-302

CSA W59.2 WELDED ALUMINUM CONSTRUCTION: INTERPRETATION AND APPLICATION



COURSE INFO

This course is an in-depth exploration of CSA Standard, CSA W59.2 Welded aluminum construction. Each clause is examined and supported with knowledge check quizzes and/or practice activities based on industry examples that require navigation of the standard. These navigation skills are put into practice with 2 scenarios that require navigation of the entire standard to determine the answers. The course concludes with a final exam that simulates the open book certification exam.

20 PDHs | \$209

DETAILS

CODE

W592-302

LANGUAGES AVAILABLE

English, French

PATHWAY

WSA

PRE-REQUISITES

BICM-301, DINT-301, JPDR-301, SYMS-302



ELECTRODES AND CONSUMABLES



COURSE INFO

This professional level course focuses on comprehensive knowledge of welding electrodes and consumables. Topics include understanding the groupings and classifications of standard electrodes covered in various CSA and AWS standards, understanding the basic classifications for low alloy steel, stainless steel, aluminum, copper and nickel alloy electrodes, understanding classification of electrodes for soldering and brazing filler metals, and more.

8 PDHs | \$305

DETAILS

CODE

ELEC-301

LANGUAGES AVAILABLE

English, French

PATHWAY

Inspector Level 2

PRE-REQUISITE

None

FUNCTIONS OF THE INSPECTOR



COURSE INFO

This is a professional level course focusing on comprehensive knowledge of the functions of a welding inspector. Topics include interpreting a mill test report, verifying welding procedure specifications have been properly qualified, explaining the processes required for inspection prior to, during, and after welding, and more.

8 PDHs | \$305

DETAILS

CODE

INSP-301

LANGUAGES AVAILABLE

English, French

PATHWAY

Inspector Level 1

PRE-REQUISITE

None

THE IMPACT OF STRUCTURE ON WELDABILITY



COURSE INFO

This is a comprehensive professional level course focusing on the relationship between a metal's basic properties within equilibrium conditions and its behavioural conditions in welding. Topics covered include basic metal structures and their behaviours, methods of changing the mechanical properties of alloys, phase diagrams, the effects of welding procedures on solidification structures, and more.

12 PDHs | \$305

DETAILS

CODE

STRU-301

LANGUAGES AVAILABLE

English

PATHWAY

Inspector Level 3

PRE-REQUISITE

METL-301, METL-302, METL-303

INTERMEDIATE DRAWING INTERPRETATION



COURSE INFO

This is a professional level course focusing on comprehensive knowledge of drawing interpretation. Topics include types of drawings, interpreting structural drawings, types of pipe drawings, views, and drawing information, and more.

8 PDHs | \$305

DETAILS

CODE

DINT-301

LANGUAGES AVAILABLE

English, French

PATHWAY

Inspector Level 1

PRE-REQUISITE

None

INTERMEDIATE WELDING SYMBOLS



COURSE INFO

This is a professional level course focusing on comprehensive knowledge of welding symbols. Topics include the key elements of welding symbols, symbols used for fillet, groove, arc spot and plug welds, combined symbols, and symbols referenced by CSA, AWS, and ISO.

8 PDHs | \$305

DETAILS

CODE
SYMS-302

LANGUAGES AVAILABLE
English, French

PATHWAY
Inspector Level 1

PRE-REQUISITE
None

INTRODUCTION OF WELDING METALLURGY OF STEEL



COURSE INFO

This is a professional level course focusing on comprehensive knowledge of welding metallurgy of steel. Topics covered in this course include metallurgical transformations, cracking tests, lamellar tearing, meld metal reactions, avoidance of hydrogen induced cold crack, and more.

8 PDHs | \$305

DETAILS

CODE
METL-303

LANGUAGES AVAILABLE
English, French

PATHWAY
Inspector Level 2

PRE-REQUISITE
METL-301 and METL-302

JOINT DESIGN AND PREPARATION



COURSE INFO

This is a professional level course focusing on comprehensive knowledge of joint design and preparation. Topics include describing the different types of welded joints, describing the mechanical method of joint preparation, identifying the effects of thermal and non-thermal cutting and gouging, and more.

8 PDHs | \$305

DETAILS

CODE
JDPR-302

LANGUAGES AVAILABLE
English, French

PATHWAY
Inspector Level 1

PRE-REQUISITE
None

MECHANICAL TESTING OF WELDS



COURSE INFO

This is a professional level course focusing on comprehensive knowledge of mechanical testing of welds. Topics covered in this course include the concepts of stress and strain, the method behind tensile tests and bend tests, the requirements of various codes for tensile and bend tests, and more.

8 PDHs | \$305

DETAILS

CODE
MTWL-301

LANGUAGES AVAILABLE
English, French

PATHWAY
Inspector Level 2

PRE-REQUISITE
BICM-301 and VICT-301

METALLURGY AND MATERIAL SPECIFICATION



COURSE INFO

This is a professional level course focusing on comprehensive knowledge of metallurgy. Topics include identifying the groupings, properties, and applications of engineered materials, identifying the microstructures of steel, interpret the iron-carbon phase diagram, describe tests for identifying metals, and more.

8 PDHs | \$305

DETAILS

CODE

METL-301

LANGUAGES AVAILABLE

English, French

PATHWAY

Inspector Level 1

PRE-REQUISITE

None

METALLURGY OF STAINLESS STEELS



COURSE INFO

This is a professional level course focusing on comprehensive knowledge of welding metallurgy of stainless steels. Topics covered in this course include explaining the role of various alloying elements in stainless steels, explaining the major problems in welding stainless steels and how to overcome them, understanding the welding procedures for stainless steels, and more.

8 PDHs | \$305

DETAILS

CODE

METL-304

LANGUAGES AVAILABLE

English, French

PATHWAY

Inspector Level 2

PRE-REQUISITE

METL-301, METL-302, METL-303

NAVIGATION OF CODES AND STANDARDS



COURSE INFO

This is a professional level course that introduces learners to the essential concepts, language, and navigation techniques used in welding codes and standards. Participants will identify key Canadian, U.S., and international codes and standards, explore their purpose and importance, and learn how to interpret their structure and terminology. The course also covers practical strategies for navigating both print and digital formats, including keyword searches, tabbing techniques, and understanding cross-references and jurisdictional authority.

3 PDHs | \$145

DETAILS

CODE

NAVI-301

LANGUAGES AVAILABLE

English, French

PATHWAYS

WSA, WSS

PRE-REQUISITES

None

POWER SOURCES FOR WELDING



COURSE INFO

This is a professional level course focusing on comprehensive knowledge of power sources used in welding. Topics include describing the static and dynamic characteristics of welding power sources, distinguishing between conductors and insulators, describing the evolution of welding power sources, and more.

8 PDHs | \$305

DETAILS

CODE

PSFW-301

LANGUAGES AVAILABLE

English, French

PATHWAY

Inspector Level 2

PRE-REQUISITE

SMAW-101, GTAW-101, and WIRE-101

QUALITY MANAGEMENT BASICS



COURSE INFO

This is an intermediate level course focusing on the concepts of quality and quality management. It provides an overview of the ISO 9001:2015 Standard with specific examples of how it relates to welding inspection.

12 PDHs | \$305

DETAILS

CODE

QUAL-301

LANGUAGES AVAILABLE

English

PATHWAY

Inspector Level 3

PRE-REQUISITE

None

QUALITY CONTROL AND INSPECTION METHODS



COURSE INFO

This is a professional level course focusing on methods of welding inspection. Topics include an overview on quality and quality control, applications of non-destructive and destructive testing, methods and their respective principles of operation and advantages.

4 PDHs | \$145

DETAILS

CODE

QCIM-303

LANGUAGES AVAILABLE

English, French

PATHWAYS

WSA, WSS

PRE-REQUISITE

None

RADIOGRAPHIC INSPECTION



COURSE INFO

This is a professional level course focusing on comprehensive knowledge of radiographic inspection of welds. Topics covered in this course include describing how radiography works, explaining how images are formed and what controls their quality, recognizing radiographic images of various defects, describing safety practices with radiographic inspection, and more.

8 PDHs | \$305

DETAILS

CODE

RADI-301

LANGUAGES AVAILABLE

English, French

PATHWAY

Inspector Level 2

PRE-REQUISITE

VICT-301 and
WFIC-301

RESIDUAL STRESS AND DISTORTION



COURSE INFO

This is a professional level course focusing on comprehensive knowledge of welding related stress and distortion. Topics covered in this course include, describing the causes of distortion, identifying the residual stress patterns in rolled shapes, identifying the types of distortion and explaining techniques of limiting and controlling distortion, and more.

8 PDHs | \$305

DETAILS

CODE

RSDI-301

LANGUAGES AVAILABLE

English, French

PATHWAY

Inspector Level 2

PRE-REQUISITE

DIST-101

REVIEW OF PHYSICAL METALLURGY



COURSE INFO

This is a professional level course focusing on comprehensive knowledge of physical metallurgy. Topics covered in this course include, understanding the making of iron and steel, understanding the crystallographic differences between the ferrite and austenite lattice, understanding strengthening mechanisms, and more.

8 PDHs | \$305

DETAILS

CODE
METL-302

LANGUAGES AVAILABLE
English, French

PATHWAY
Inspector Level 2

PRE-REQUISITE
METL-301 or previous course experience with welding metallurgy

SURFACE INSPECTION



COURSE INFO

This is a professional level course focusing on comprehensive knowledge of surface inspection of welds. Topics covered in this course include explaining the basic principles of LP and MP inspection methods, understanding the components of typical inspection procedures and techniques, identifying false and non-relevant indications, and more.

8 PDHs | \$305

DETAILS

CODE
SURF-301

LANGUAGES AVAILABLE
English, French

PATHWAY
Inspector Level 2

PRE-REQUISITE
VICT-301 and WFIC-301

ULTRASONIC INSPECTION



COURSE INFO

This is a professional level course focusing on comprehensive knowledge of ultrasonic inspection of welds. Topics covered in this course include describing how ultrasonic inspection works, calibrating equipment and the suitability of equipment and materials for the specifications of ultrasonic testing, describe the typical code requirements governing ultrasonic testing, and more.

8 PDHs | \$305

DETAILS

CODE
ULTR-301

LANGUAGES AVAILABLE
English, French

PATHWAY
Inspector Level 2

PRE-REQUISITE
VICT-301 and WFIC-301

VISUAL INSPECTION CONCEPTS AND TECHNIQUES



COURSE INFO

This is a professional level course focusing on comprehensive knowledge of visual inspection concepts and techniques. Topics include identifying types of measurement errors, identifying measuring devices used for inspection, describing the application of acceptance criteria, and more.

8 PDHs | \$305

DETAILS

CODE
VICT-301

LANGUAGES AVAILABLE
English, French

PATHWAY
Inspector Level 1

PRE-REQUISITE
None

WELDING FAULTS: INSPECTION AND CAUSES



COURSE INFO

This is a professional level course focusing on comprehensive knowledge of welding faults. Topics include identifying different types of weld discontinuities, describing the causes of weld discontinuities, and applying visual inspection criteria.

8 PDHs | \$305

DETAILS

CODE
WFIC-301

LANGUAGES AVAILABLE
English, French

PATHWAY
Inspector Level 1

PRE-REQUISITE
None

WELDING PROCESSES



COURSE INFO

This is a professional level course focusing on comprehensive knowledge of welding processes. Topics include describing the classification of welding processes, identifying torches/guns for each welding process, explaining weld soundness and variables associated with each welding process, and identifying typical discontinuities for each welding process.

8 PDHs | \$305

DETAILS

CODE
PROC-301

LANGUAGES AVAILABLE
English, French

PATHWAY
Inspector Level 1

PRE-REQUISITE
None

WELDING METALLURGY: ALUMINUM



COURSE INFO

This is a professional level course focusing on comprehensive knowledge of the properties of aluminum that affect welding, the types of heat treatment processes and their effects, and more.

12 PDHs | \$305

DETAILS

CODE
METL-308

LANGUAGES AVAILABLE
English

PATHWAY
Inspector Level 3

PRE-REQUISITE
METL-301,
METL-302,
METL-303,
STRU-301

WELDING METALLURGY: CAST IRON



COURSE INFO

This is a professional level course focusing on comprehensive knowledge of the types of cast iron, fundamental principles of cast iron composition, microstructure, and properties, various types of heat treatment processes and the effects of these processes, and more.

12 PDHs | \$305

DETAILS

CODE
METL-309

LANGUAGES AVAILABLE
English

PATHWAY
Inspector Level 3

PRE-REQUISITE
METL-301,
METL-302,
METL-303,
STRU-301

WELDING METALLURGY: NON-FERROUS METALS



COURSE INFO

This is a professional level course focusing on comprehensive knowledge of the properties of non-ferrous metals that affect welding, issues encountered when welding non-ferrous metals, various types of heat treatment processes and the effects of these processes, and more.

12 PDHs | \$305

DETAILS

CODE
METL-307

LANGUAGES AVAILABLE
English

PATHWAY
Inspector Level 3

PRE-REQUISITE
METL-301,
METL-302,
METL-303,
STRU-301

WELDING METALLURGY: STEELS



COURSE INFO

This is a professional level course focusing on comprehensive knowledge of the fundamental principles of steel composition, microstructure, and properties, various types of heat treatment processes and the effects of these processes, and more.

12 PDHs | \$305

DETAILS

CODE
METL-306

LANGUAGES AVAILABLE
English

PATHWAY
Inspector Level 3

PRE-REQUISITE
METL-301,
METL-302,
METL-303,
STRU-301

WELDING PROCEDURE DATA SHEETS (WPDS): INTERPRETATION AND APPLICATION



COURSE INFO

This course introduces Welding Procedure Specifications (WPS), Procedure Qualification Records (PQR), and Welding Procedure Data Sheets (WPDS) focusing on their purposes, differences, relationships, and key components. Examine the procedure qualification process for prequalified and non-prequalified WPDSs, the roles and responsibilities associated with and affected by these documents. Assessments include completing a WPDS using a scenario and supporting documentation. Both steel and aluminum procedures will be explored.

12 PDHs | \$305

DETAILS

CODE
WPDS-301

LANGUAGES AVAILABLE
English

PATHWAYS
WSA, WSS

PRE-REQUISITES
BICM-301, DINT-301,
JDPR-302, SYMS-302

WELDING PROCESSES AND EQUIPMENT



COURSE INFO

This is a professional level course focusing on advanced welding processes and equipment. It provides an overview of major welding processes, with emphasis on arc welding, and a broad understanding of the principles of operation of each process, general characteristics and equipment. Processes such as resistance welding (RW), plasma arc welding (PAW), electron beam (EBW), laser beam welding (LBW) and electroslag welding (ESW) are also covered.

8 PDHs | \$305

DETAILS

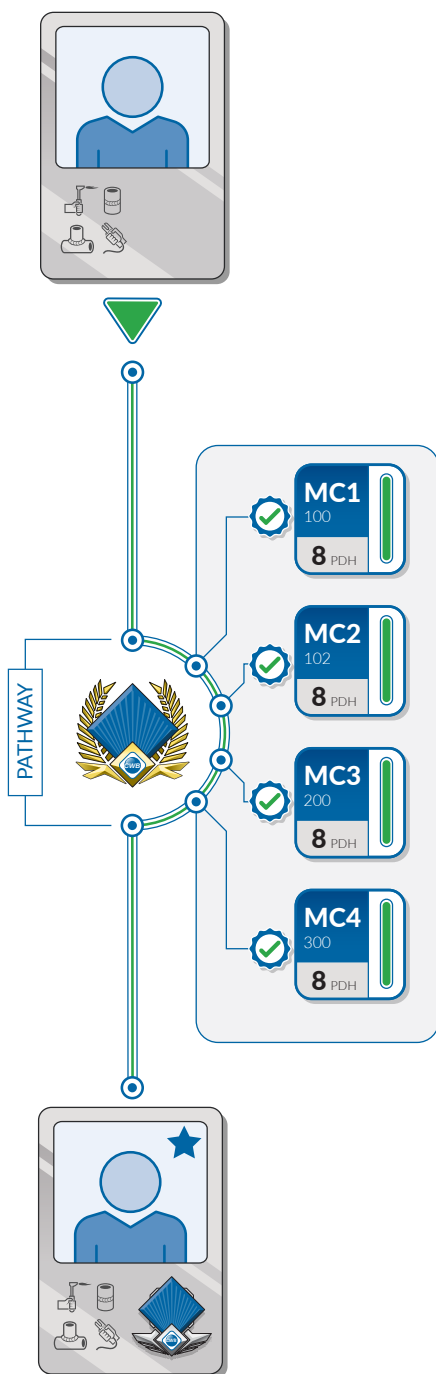
CODE
PROC-303

LANGUAGES AVAILABLE
English, French

PATHWAY
Inspector Level 2

PRE-REQUISITE
PROC-301 or course
experience in welding
processes

Recognized Pathways, Bundles, and Courses



Upgrade your knowledge with recognized pathways. Each pathway identifies complimentary courses that builds toward improving in your current job or expanding your horizons to a new one.

Course bundles provide a convenient and affordable package for common welding skill sets.

Recognized pathways and individual micro-credential courses are perfect for those looking for an introduction to a certain subject, or looking to expand on basic skills.

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Recognized Pathways

DESTRUCTIVE AND NON-DESTRUCTIVE TESTING

Non-destructive testing is used in a wide range of industries including manufacturing, fabrication, oil and gas as well as transportation. This pathway covers inspection techniques used to pro-actively identify faults that could lead to product failure and or public or environmental safety.



Mechanical Testing of Welds

MTWL-301



Surface Inspection

SURF-301



Radiographic Inspection

RADI-301



Ultrasonic Inspection

ULTR-301



INSPECTION BASICS

Certified Welding Inspectors play a vital role in the fabrication industry. Their responsibilities have a direct bearing on final product quality and thus public safety. This pathway involves understanding specifications, weld faults, and the functions of an inspector to help industry avoid repairs and costly project delays.



Basic Inspection Codes and Methods

BICM-301



Codes, Standards, and Specifications

SCWQ-301



Functions of the Inspector

INSP-301



Visual Inspection Concepts and Techniques

VICT-301



Welding Faults: Inspection and Causes

WFIC-301



METALLURGY CERTIFICATE

Metallurgy involves understanding the physical, chemical, and mechanical properties of welding. This pathway progressively builds on the concepts of welding metallurgy and successful completion of all four courses provides recognition of a metallurgy certificate of completion.



Metallurgy and Material
Specification
METL-301



Introduction of Welding
Metallurgy of Steel
METL-303



Review of Physical Metallurgy
METL-302



Metallurgy of Stainless Steels
METL-304



WELDING FUNDAMENTALS

Welders are highly skilled tradespeople involved with the construction, repair, fabrication, and maintenance of critical infrastructure. This pathway provides a basic understanding of various arc welding processes as well as the power sources and consumables involved with them.



Welding Processes
PROC-301



Electrodes and Consumables
ELEC-301



Power Sources for Welding
PSFW-301



Recognized Course Bundles

OCCUPATIONAL SKILLS FOR WELDING

COURSE INFO

This course is an introductory course focusing on practical trade knowledge that supports safe and competent work in welding and fabrication environments. The package brings together health and safety, material handling, rigging and hoisting, drawing interpretation, and pipe layout and fabrication topics that welders may need to apply when preparing for, performing, or supporting shop and field work.

Topics include:

- Recognition of workplace hazards, related safety requirements, and safe work practices
- Selection criteria for rigging equipment
- Practical knowledge for planning lifts using working load limits
- Interpretation of structural and pipe drawings and their symbols
- Basic layout and fabrication skills

48 PDHs | \$459

MICRO-CREDENTIALS INCLUDED

Basic Drafting and Structural
Drawing Interpretation
DRLF-101



Drawings, Layout, and Fabrication
DRLF-201



Lifting, Hoisting, and Rigging
MLHG-101



Welding Health and Safety
HEAL-102



TECHNICAL SKILLS FOR WELDING

COURSE INFO

This intermediate course package builds the technical knowledge welders need beyond process-specific training. It focuses on the job-ready skills that support accurate interpretation of welding symbols, proper joint selection and preparation, sound fit-up, and better control of distortion during fabrication.

Topics include:

- Welding symbol interpretation, including arrow side, other side, multiple reference lines, and NDE symbols.
- Joint and weld selection for common welded connections.
- Joint preparation methods, including mechanical, thermal, and non-thermal cutting processes.
- Distortion control, including residual stress, weld sequencing, restraint, and flame straightening.

28 PDHs | \$359

MICRO-CREDENTIALS INCLUDED

Intermediate Welding Symbols
SYMS-302



Joint Design and Preparation
JDPR-302



Residual Stress and Distortion
DIST-101



THERMAL CUTTING FUNDAMENTALS

COURSE INFO

Thermal cutting refers to processes that use heat to cut or remove metal. This introductory course provides a foundational overview of common thermal cutting methods, including their basic principles, equipment considerations, and typical applications in metal fabrication and welding-related work.

Major processes explored include oxy-fuel cutting (OFC), plasma arc cutting (PAC), and air carbon arc cutting (CAC-A).

16 PDHs | \$359

MICRO-CREDENTIALS INCLUDED

Air Carbon Arc Cutting (CAC-A)
CAG-101



Oxy-Fuel Cutting
OFC-101



Plasma Arc Cutting
PAC-101



WELD CRITERIA AND ASSESSMENT FUNDAMENTALS

COURSE INFO

This intermediate course package brings together three related areas of weld evaluation: codes, standards, specifications, and welder qualification requirements; quality control and inspection practices; and weld quality principles used to identify and assess common discontinuities. It is ideal for supervisors, welding shop foremen, project managers, and engineers who want fundamental knowledge but not a deep investigation into inspector roles and responsibilities.

Together, these courses provide a practical foundation for understanding how weld requirements are defined, verified, and assessed through the following topics:

- Code language, welding standards, and project specifications
- WPS, WPDS, PQR, and welder qualification documentation
- Structural and pressure welding applications
- Weld discontinuities, defects, and likely causes
- Destructive and non-destructive weld testing methods
- Fit-up, joint preparation, weld sizing, and visual inspection

36 PDHs | \$359

MICRO-CREDENTIALS INCLUDED

Codes, Standards, Specifications,
and Welder Qualifications
SCWQ-201



Quality Control and Inspection
QCIM-201



Weld Quality and Discontinuities
QUAL-101



List of Recognized Micro-credentials

BASIC DRAFTING AND STRUCTURAL DRAWING INTERPRETATION



COURSE INFO

This course is an introductory course focusing on the fundamentals of drawing interpretation. Topics include types of drawings, types of views, units of measurement, and more.

12 PDHs | \$145

DETAILS

CODE
DRLF-101

LANGUAGES AVAILABLE
English, French

PATHWAY
None

PRE-REQUISITE
None

BASIC GAS TUNGSTEN ARC WELDING



COURSE INFO

This course is an introductory course focusing on the fundamentals of gas tungsten arc welding (GTAW). Topics include power sources, process variables, discontinuities, and more.

16 PDHs | \$145

DETAILS

CODE
GTAW-101

LANGUAGES AVAILABLE
English, French

PATHWAY
None

PRE-REQUISITE
None

BASIC SHIELDED METAL ARC WELDING



COURSE INFO

This course is an introductory course focusing on the fundamentals of shielded metal arc welding (SMAW). Topics include power sources, SMAW equipment, process variables, and more.

16 PDHs | \$145

DETAILS

CODE
SMAW-101

LANGUAGES AVAILABLE
English, French

PATHWAY
None

PRE-REQUISITE
None

BASIC WELDING METALLURGY



COURSE INFO

This course is an introductory course focusing on the fundamentals of welding metallurgy. Topics include mechanical and physical properties of metal, weldability of steels, heat treatment, and more.

16 PDHs | \$145

DETAILS

CODE

METL-101

LANGUAGES AVAILABLE

English, French

PATHWAY

None

PRE-REQUISITE

None

BASIC WIRE PROCESS WELDING



COURSE INFO

This course is an introductory course focusing on the fundamentals of wire process welding. Topics include power sources, gas metal arc welding (GMAW), modes of metal transfer, and more.

16 PDHs | \$145

DETAILS

CODE

WIRE-101

LANGUAGES AVAILABLE

English, French

PATHWAY

None

PRE-REQUISITE

None

CODES, STANDARDS, SPECIFICATIONS, AND WELDER QUALIFICATIONS



COURSE INFO

This course is an intermediate course focusing on the codes and standards as they relate to various certification bodies. Topics include agencies that set codes and standards, structural applications, pressure applications, and more.

12 PDHs | \$145

DETAILS

CODE

SCWQ-201

LANGUAGES AVAILABLE

English

PATHWAY

None

PRE-REQUISITE

None

DISTORTION



COURSE INFO

This course is an introductory course focusing on the fundamentals of distortion. Topics include factors influencing distortion, control of distortion, correction of distortion, and more.

16 PDHs | \$145

DETAILS

CODE

DIST-101

LANGUAGES AVAILABLE

English, French

PATHWAY

None

PRE-REQUISITE

None



DRAWINGS, LAYOUT, AND FABRICATION



COURSE INFO

This course is an intermediate course focusing on structural drawings, pipe drawings, layout and fabrication. Topics include pipe fittings, reading pipe drawings, fitting and fabrication equipment, and more.

16 PDHs | \$145

DETAILS

CODE
DRLF-201

LANGUAGES AVAILABLE
English

PATHWAY
None

PRE-REQUISITE
DRLF-101

GMAW ORBITAL WELDING



COURSE INFO

This course is an advanced course focusing on the fundamentals of GMAW orbital welding. This program has been developed in partnership with Liburdi Automation and details the use of their industry leading orbital equipment. Topics include welding heads, joint design and preparation, system operation, and more.

24 PDHs | \$999

DETAILS

CODE
ORBI-301

LANGUAGES AVAILABLE
English

PATHWAY
None

PRE-REQUISITE
None

GTAW ORBITAL WELDING



COURSE INFO

This course is an advanced course focusing on the fundamentals of GTAW orbital welding. This program has been developed in partnership with Liburdi Automation and details the use of their industry leading orbital equipment. Topics include welding heads, joint design and preparation, system operation, and more.

24 PDHs | \$999

DETAILS

CODE
ORBI-302

LANGUAGES AVAILABLE
English

PATHWAY
None

PRE-REQUISITE
None

INTRODUCTION TO ASME SECTION IX



COURSE INFO

This is a professional-level course that provides an overview of ASME BPVC Section IX, with an emphasis on its use in the welding industry. It explores the various articles, providing a detailed look at the more important aspects of each. As well, it provides demonstrations of how to navigate the code, helping the user understand where to start their search and when and how to use the cross-references they encounter.

24 PDHs | \$409

DETAILS

CODE
ASM9-301

LANGUAGES AVAILABLE
English

PATHWAY
None

PRE-REQUISITES
DINT-301, JDPR-302,
QCIM-303, SCWQ-301
SYMS-302, WFIC-301



LIFTING, HOISTING, AND RIGGING



COURSE INFO

This course is an introductory course focusing on the fundamentals of lifting, rigging, and hoisting. Topics include safe handling and storage of materials, calculating the weight of loads, sling configurations applications and working load limits, and many more.

12 PDHs | \$145

DETAILS

CODE

MLHG-101

LANGUAGES AVAILABLE

English, French

PATHWAY

None

PRE-REQUISITE

None

OXY-FUEL CUTTING



COURSE INFO

This course is an introductory course focusing on the fundamentals of oxy-fuel cutting. Topics include oxy-fuel cylinder safety, pressure regulators and their functions, start up and shut down procedures, and more.

12 PDHs | \$145

DETAILS

CODE

OFC-101

LANGUAGES AVAILABLE

English, French

PATHWAY

None

PRE-REQUISITE

None

PLASMA ARC CUTTING



COURSE INFO

This course is an introductory course focusing on the fundamentals of plasma arc cutting. Topics include applications, operating variables, elements affecting quality and plasma arc cutting process.

2 PDHs | Packaged with other courses

DETAILS

CODE

PAC-101

LANGUAGES AVAILABLE

English, French

PATHWAY

None

PRE-REQUISITE

None

QUALITY CONTROL AND INSPECTION



COURSE INFO

This course is an introductory course focusing on the fundamentals of quality control and inspection. Topics include, quality control and inspection, inspection responsibilities, supervisor, and inspector responsibilities, and more.

8 PDHs | \$145

DETAILS

CODE

QCIM-201

LANGUAGES AVAILABLE

English, French

PATHWAY

None

PRE-REQUISITE

QUAL-101

WELDING HAND AND POWER TOOLS



COURSE INFO

This course is an introductory course focusing on the fundamentals of welding hand and power tools. Topics include hand tools, measuring tools, cutting tools, and many more.

12 PDHs | \$145

DETAILS

CODE
TOOL-101

LANGUAGES AVAILABLE
English, French

PATHWAY
None

PRE-REQUISITE
None

WELDING HEALTH AND SAFETY



COURSE INFO

This course is an introductory course focusing on the fundamentals of welding health and safety. Topics include workplace health and safety, personal protective equipment (PPE), fire hazard precautions, and many more.

8 PDHs | \$145

DETAILS

CODE
HEAL-102

LANGUAGES AVAILABLE
English, French

PATHWAY
None

PRE-REQUISITE
None

WELD QUALITY AND DISCONTINUITIES



COURSE INFO

This course is an introductory course focusing on the fundamentals of weld quality and discontinuities. Topics include discontinuities and defects, geometric discontinuities, structural discontinuities, and more.

12 PDHs | \$145

DETAILS

CODE
QUAL-101

LANGUAGES AVAILABLE
English, French

PATHWAY
None

PRE-REQUISITE
None

Micro-credentials for Training Providers, Companies, and Businesses



If your organization is seeking educational opportunities designed for specific skill development, knowledge enhancement, and competency building, look no further than CWB micro-credentials.

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Act now and empower
your workforce with
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