



Fabricator – Welder Certificate

PLAR Candidate Guide

Prior Learning Assessment and Recognition (PLAR)

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Prior learning credit options at Saskatchewan Polytechnic

See [Get Credit for What you Know](#) for important information about all options to get credit for prior learning at Sask Polytech, including PLAR, transfer credit, Canadian Armed Forces credit, and equivalency credit.

How to navigate this document

This document contains links to other document sections or webpages. To return to where you were from another section in this document, press the *ALT* key and *left arrow* key at the same time. To return to this webpage from another webpage, close the other webpage or click back on the browser tab for this document.

Contents of this guide

This guide contains the following specific PLAR information and tools for this program

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- B. [PLAR eligibility and options](#)
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A. PLAR fees

Fees for PLAR challenges are set to cover our costs for consultation, assessment, and related administrative tasks. PLAR fees are non-refundable and non-transferrable.

The PLAR fees policy is subject to change for each new academic year. Please see the **Cost** section on the [PLAR webpage](#) for current fee information.

B. PLAR eligibility and options

To be eligible for PLAR for courses in this program, you must first apply for admission and be accepted into the program. You must also consult with the [PLAR contact person](#) and be approved for PLAR assessment.

Course prerequisites and corequisites

Some courses have one or more other courses that must be completed first (prerequisite) or at the same time (corequisite). See [course outlines](#) in this guide to identify any pre- or co-requisites for each course. Discuss with your [PLAR contact person](#) how to deal with courses with corequisites.

Block assessment

Some programs may assess a cluster of courses together in one block, which may save you time and effort. Ask the [PLAR contact person](#) whether there are any block assessment options in this program.

C. Dates when PLAR assessment is available

PLAR assessment for this program is available from Sept 1 to June 15 in each academic year.

All PLAR assessments must be completed by June 15 of each academic year.

D. Special directions for this program

1. **Review** the [PLAR process and FAQs](#) and the information in this guide.
2. **Self-rate** your learning for each course using the [Course Outlines](#) in this guide.
3. **Consult** with the [PLAR contact person](#) for PLAR approval. Be prepared to provide your resume, course self-ratings (see [section F](#)), and a partially completed [PLAR application](#). If you are approved for PLAR, the contact person will sign your PLAR application and explain next steps.
4. Apply for admission to the program. See [directions](#) for applying.
5. **Register** for PLAR at [Registration/Enrolment Services](#) once you have signed approval on your [PLAR Application Form](#). The PLAR fee will be added to your student account.
6. **Finalize** an assessment plan with your assigned assessor.
7. **Complete** assessment before your PLAR registration expires.

E. PLAR contact person

Contact one of the Program Heads below to arrange a consultation **after** you have read this guide and [general PLAR information](#) and rated yourself for each course (see next section). Consultation may be by phone, online, or in person. Be prepared to provide your resume, course self-ratings, and a partially completed [PLAR application](#). If agreement is reached to go ahead with PLAR, the contact person will sign approval on your PLAR application and explain the next steps. Admission to the program is required before you can register for PLAR.

Ian Schaan, Program Head
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F. Self-rating course outlines

Clicking on a course code below opens a page where you can rate yourself on the knowledge and skills assessed for PLAR credit. For Arts & Sciences courses, clicking on the course code opens another PLAR guide. The [PLAR contact person](#) for this program will refer you to another person to discuss PLAR for courses delivered by Arts & Sciences or another program/department.

COURSE CODE	COURSE NAME	Delivered by another department/program
BESK 101	Hand and Power Tools	
COMM 127	Fundamental Communication Skills	Arts & Sciences
COMM 172	Introduction to Microsoft Word and Excel	
EQPT 116	Layout and Template Development	
EQPT 117	Layout and Fitting	
EQPT 118	Metal Working Equipment	
INDG 100	Introduction to Indigenous Studies	Arts & Sciences
JOBS 101	Shop Management	
MATH 136	Trade Mathematics	Arts & Sciences
METL 107	Metallurgy and Material Designations	
PRNT 106	Hand Drafting	
PRNT 107	Drawing Interpretation and Welding Symbols	

COURSE CODE	COURSE NAME	Delivered by another department/program
PRNT 108	Introduction to Computer Aided Design	
PROJ 123	Fab, Form and Fit Projects	
PROJ 124	Tank and Vessel Project	
PROJ 125	Final Fabrication Project	
RIGG 105	Rigging and Crane Operation	
SFTY 133	Trade Safety	
WLDR 142	Shielded Metal Arc Welding (Theory)	
WLDR 144	Oxy-Fuel Processes (Theory)	
WLDR 145	Oxy-Fuel Processes (Shop)	
WLDR 146	Oxy-Fuel and Plasma Arc Cutting	
WLDR 147	Gas Metal Arc Welding (Theory)	
WLDR 149	Canadian Welding Bureau Welder Qualification	
WLDR 150	Introduction to Gas Tungsten Arc Welding	
WLDR 163	Shielded Metal Arc Welding Shop 2	
WLDR 164	Wire Feed Welding Processes Shop 1	
WLDR 165	Wire Feed Welding Processes Shop 2	
WORK 119	Work Experience	

BESK 101 - Hand and Power Tools

You will use hand and power tools to shape and finish metals.

Credit unit(s): 3.0
Prerequisites: none
Corequisites: none
Equivalent course(s): none

<p>Use a checkmark (✓) to rate yourself as follows for each learning outcome</p> <p>Competent: I can apply this outcome without direction or supervision. Learning: I am still learning skills and knowledge to apply this outcome. None: I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Use hand and power fabrication equipment.			
2. Use manual hand tools to cut and shape metal.			
3. Use portable drills, taps and dies.			
4. Use portable grinding, sanding and polishing equipment.			
5. Use layout tools.			
6. Use calipers and micrometers.			

COMM 127 - Fundamental Communication Skills

You will use fundamental employability skills related to obtaining and keeping a job. You will apply skills to work effectively with others and produce job-related documents. You will identify employability and practical skills to prepare effective job search materials and discuss the effect of attitudes and behaviours on a successful job search.

Credit unit(s): 2.0
Prerequisites: none
Corequisites: none
Equivalent course(s): COMM 106, COMM 127A, COMM 187, COMM 191, COMM 193, JOBS 190, PROF 100, TCOM 102, TCOM 105, TCOM 120, TCOM 140

<p>Use a checkmark (✓) to rate yourself as follows for each learning outcome</p> <p>Competent: I can apply this outcome without direction or supervision. Learning: I am still learning skills and knowledge to apply this outcome. None: I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Apply job-related interpersonal communication strategies.			
2. Examine effective digital communication.			
3. Prepare job-related written communication.			
4. Use job search skills.			

COMM 172 - Introduction to Microsoft Word and Excel

You will learn the purpose and uses of a word processor and electronic spreadsheet. You will develop the basic skills of creating, editing and formatting documents and spreadsheets.

Credit unit(s): 1.0
Prerequisites: none
Corequisites: none
Equivalent course(s): COAP 120, COAP 172, COAP 381, COMP 120

<p>Use a checkmark (✓) to rate yourself as follows for each learning outcome</p> <p>Competent: I can apply this outcome without direction or supervision. Learning: I am still learning skills and knowledge to apply this outcome. None: I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Create Word documents.			
2. Edit Word documents.			
3. Format Word documents.			
4. Create a spreadsheet.			
5. Use spreadsheet features.			

EQPT 116 - Layout and Template Development

You will develop skills in layout and template development. You will learn how to use geometric construction to layout two-dimensional patterns.

Credit unit(s): 2.0
Prerequisites: none
Corequisites: EQPT 117
Equivalent course(s): none

<p>Use a checkmark (✓) to rate yourself as follows for each learning outcome</p> <p>Competent: I can apply this outcome without direction or supervision. Learning: I am still learning skills and knowledge to apply this outcome. None: I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Use geometric construction to perform layout			
2. Layout hole patterns, gussets, and plates			
3. Develop templates for fabrication projects.			
4. Layout flanges and bolt circles patterns.			

EQPT 117 - Layout and Fitting

You will transfer templates developed in previous courses to various materials and perform large scale layouts using industry related techniques to determine accuracy.

Credit unit(s): 2.0
Prerequisites: none
Corequisites: EQPT 116
Equivalent course(s): none

<p>Use a checkmark (✓) to rate yourself as follows for each learning outcome</p> <p>Competent: I can apply this outcome without direction or supervision. Learning: I am still learning skills and knowledge to apply this outcome. None: I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Create a bend set template for shop use.			
2. Make sweep templates.			
3. Fabricate matching flanges.			
4. Perform an accurate large-scale layout.			
5. Determine plum and level using manual and electronic tools.			

EQPT 118 - Metal Working Equipment

You will use metal working and fabrication equipment to cut, bend and form metal.

Credit unit(s): 4.0
Prerequisites: none
Corequisites: none
Equivalent course(s): none

<p>Use a checkmark (✓) to rate yourself as follows for each learning outcome</p> <p>Competent: I can apply this outcome without direction or supervision. Learning: I am still learning skills and knowledge to apply this outcome. None: I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Operate drill presses to produce holes in metals.			
2. Perform various functions on iron worker.			
3. Operate plate shear to cut various metals.			
4. Operate saws to cut various metals.			
5. Operate pedestal grinders for profiling material.			
6. Operate press brake for forming material.			
7. Operate plate rolls for rolling material.			
8. Operate profile bending machine to roll structural steel.			
9. Describe computer numerical control (CNC) equipment applications and benefits.			

INDG 100 - Introduction to Indigenous Studies

You will receive an introduction to the Indigenous cultural groups within Saskatchewan. You will learn about the colonization of Indigenous peoples by the Canadian state. Your studies will help you discuss current issues and explore possible solutions.

Credit unit(s): 1.0
Prerequisites: none
Corequisites: none
Equivalent course(s): none

<p>Use a checkmark (✓) to rate yourself as follows for each learning outcome</p> <p>Competent: I can apply this outcome without direction or supervision. Learning: I am still learning skills and knowledge to apply this outcome. None: I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Describe Indigenous nations of Saskatchewan.			
2. Explain how colonization has impacted Indigenous peoples.			
3. Discuss current issues and possible solutions.			

JOBS 101 - Shop Management

You will study quality assurance, lean manufacturing, and job planning. You will study the concepts and benefits of quality assurance, quality control and lean manufacturing. The steps of the planning process will be identified while developing a job plan. You will be introduced to the elements of efficient shop management in today’s competitive market.

Credit unit(s): 2.0
Prerequisites: none
Corequisites: none
Equivalent course(s): none

<p>Use a checkmark (✓) to rate yourself as follows for each learning outcome</p> <p>Competent: I can apply this outcome without direction or supervision. Learning: I am still learning skills and knowledge to apply this outcome. None: I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Describe the production costs of a fabrication shop.			
2. Describe the elements and benefits of a quality assurance program.			
3. Describe the benefits and elements of lean manufacturing.			
4. Identify the steps involved in creating a job plan.			
5. Develop a job plan.			

MATH 136 - Trade Mathematics

You will study basic mathematical concepts including whole numbers, decimals, fractions, percents, ratio, proportion, squares and roots. You will also study the International System of Units in calculations such as finding length, capacity, mass, area, and volume.

Credit unit(s): 3.0
Prerequisites: none
Corequisites: none
Equivalent course(s): none

<p>Use a checkmark (✓) to rate yourself as follows for each learning outcome</p> <p>Competent: I can apply this outcome without direction or supervision. Learning: I am still learning skills and knowledge to apply this outcome. None: I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Use arithmetic.			
2. Use some basics of algebra.			
3. Use the International System of Units (SI) and Imperial units.			
4. Solve geometry problems and angular measure.			

METL 107 - Metallurgy and Material Designations

You will study the types, operation and control of cranes, Occupational Health and Safety aspects, load estimation, and site evaluation. You will study the capacity of cranes, as well as rigging, signaling, and maintaining the crane and logbooks.

Credit unit(s): 2.0
Prerequisites: none
Corequisites: none
Equivalent course(s): none

<p>Use a checkmark (✓) to rate yourself as follows for each learning outcome</p> <p>Competent: I can apply this outcome without direction or supervision. Learning: I am still learning skills and knowledge to apply this outcome. None: I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Describe the steelmaking process.			
2. Discuss properties of metal.			
3. Apply heat treatment.			
4. Identify Structural shapes HSS plate and sheet.			
5. Discuss chemical composition of steels.			
6. Discuss proper storage and handling procedures.			

PRNT 106 - Hand Drafting

You will apply the skills learned in drawing interpretation to sketch oblique, isometric, and orthographic drawings of three-dimensional objects.

Credit unit(s): 1.0
Prerequisites: none
Corequisites: none
Equivalent course(s): none

<p>Use a checkmark (✓) to rate yourself as follows for each learning outcome</p> <p>Competent: I can apply this outcome without direction or supervision. Learning: I am still learning skills and knowledge to apply this outcome. None: I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Develop an oblique sketch of an object.			
2. Develop an isometric sketch of an object.			
3. Develop an orthographic sketch of an object.			
4. Develop a basic shop drawing using manual drawing techniques.			

PRNT 107 - Drawing Interpretation and Welding Symbols

In this course you will be introduced to various technical drawings that are used in the construction and manufacturing industries. You will study the proper terminology and components of drawings. In this course students will be introduced to common structural, piping, vessel drawings and terminology. You will be introduced to weld joint design and welding symbol.

Credit unit(s): 2.0
Prerequisites: none
Corequisites: none
Equivalent course(s): none

Use a checkmark (✓) to rate yourself as follows for each learning outcome		Competent	Learning	None
Competent:	I can apply this outcome without direction or supervision.			
Learning:	I am still learning skills and knowledge to apply this outcome.			
None:	I have no knowledge or experience related to this outcome.			
1.	Describe elements of technical drawings.			
2.	Describe types of prints and print format.			
3.	Describe types of joints and welds.			
4.	Describe common welding symbols.			
5.	Interpret basic shop drawings including structural, piping and vessel.			

PRNT 108 - Introduction to Computer Aided Design

In this course you will be introduced to computer aided drawing methods used in the fabrication and welding industries. You will use computer assisted drawing software to draw parts and develop both two-and three-dimensional parts and assemblies.

Credit unit(s): 2.0
Prerequisites: PRNT 106(concurrent), PRNT 107(concurrent)
Corequisites: none
Equivalent course(s): none

<p>Use a checkmark (✓) to rate yourself as follows for each learning outcome</p> <p>Competent: I can apply this outcome without direction or supervision. Learning: I am still learning skills and knowledge to apply this outcome. None: I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Apply the user interface of computer assisted drawing and modeling software (CAM) to shop drawings.			
2. Develop parts using CAM software.			
3. Develop an assembly using 3D CAM software.			
4. Create a drawing with a bill of materials for an assembly using 3D CAM Software.			

PROJ 123 - Fab, Form and Fit Projects

You will take previously learned skills including the use of hand and powered equipment to fabricate various projects.

Credit unit(s): 2.0
Prerequisites: EQPT 118(concurrent)
Corequisites: none
Equivalent course(s): none

<p>Use a checkmark (✓) to rate yourself as follows for each learning outcome</p> <p>Competent: I can apply this outcome without direction or supervision. Learning: I am still learning skills and knowledge to apply this outcome. None: I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Fabricate jigs and fixtures.			
2. Fabricate small scale projects from approved list.			
3. Fabricate structural project.			

PROJ 124 - Tank and Vessel Project

You will study and apply basic vessel drawing terminology. Students will fabricate a vessel using basic layout methods.

Credit unit(s): 2.0
Prerequisites: PROJ 123(concurrent)
Corequisites: none
Equivalent course(s): none

<p>Use a checkmark (✓) to rate yourself as follows for each learning outcome</p> <p>Competent: I can apply this outcome without direction or supervision. Learning: I am still learning skills and knowledge to apply this outcome. None: I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Describe material requirements for a vessel project.			
2. Define a proper sequence of fabrication for a vessel.			
3. Fabricate a tank or vessel using power and hand tools.			
4. Assemble, tack and weld parts to complete the vessel project.			

PROJ 125 - Final Fabrication Project

Using shop power equipment and welding techniques you will fabricate parts that will be assembled and welded to produce your final project.

Credit unit(s): 2.0
Prerequisites: PROJ 124(concurrent)
Corequisites: none
Equivalent course(s): none

<p>Use a checkmark (✓) to rate yourself as follows for each learning outcome</p> <p>Competent: I can apply this outcome without direction or supervision. Learning: I am still learning skills and knowledge to apply this outcome. None: I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Study the drawings associated with the final project.			
2. Develop a production plan for the fabrication of the final project parts.			
3. Use power equipment to fabricate parts for the final project.			
4. Assemble, tack and weld parts to complete the final project assembly.			
5. Use power finishing equipment to complete the final project.			

RIGG 105 - Rigging and Crane Operation

You will study the types, operation and control of cranes, Occupational Health and Safety aspects, load estimation, and site evaluation. You will study the capacity of cranes, as well as rigging, signaling and maintaining the crane and log books.

Credit unit(s): 2.0
Prerequisites: none
Corequisites: none
Equivalent course(s): none

<p>Use a checkmark (✓) to rate yourself as follows for each learning outcome</p> <p>Competent: I can apply this outcome without direction or supervision. Learning: I am still learning skills and knowledge to apply this outcome. None: I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Discuss the Occupational Health and Safety Regulations.			
2. Discuss types of cranes.			
3. Identify strengths of ropes and knots.			
4. Demonstrate signaling.			
5. Calculate the weight of a load to safely move materials within the limits of the lifting equipment.			
6. Discuss the logbook and routine maintenance of cranes.			
7. Describe the use of equipment aids.			
8. Apply rigging concepts to safely lift and transfer various materials.			
9. Operate crane.			

SFTY 133 - Trade Safety

You will be introduced to safety regulations and legislations. Students will learn to work safely with scaffolds, walkways, and ladders. Students will learn about confined space procedures, lockout, tagout and fall protection. Students will also be introduced to WHMIS and the globally harmonized system.

Credit unit(s): 3.0
Prerequisites: none
Corequisites: none
Equivalent course(s): none

<p>Use a checkmark (✓) to rate yourself as follows for each learning outcome</p> <p>Competent: I can apply this outcome without direction or supervision. Learning: I am still learning skills and knowledge to apply this outcome. None: I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Interpret Saskatchewan Occupation Health & Safety (OH&S) regulations and legislation.			
2. Describe safe use of scaffolds, walkways and ladders.			
3. Describe lockout procedures.			
4. Describe confined space entry procedures.			
5. Describe fall protection procedures.			
6. Perform risk assessment.			
7. Interpret WHMIS 2015 Global Harmonized System.			
8. Practice safety in the workplace.			

WLDR 142 - Shielded Metal Arc Welding (Theory)

You will be introduced to the safe operation and maintenance of shielded metal arc welding (SMAW) equipment and accessories. You will examine the proper classification and application of SMAW electrodes.

Credit unit(s): 1.0
Prerequisites: none
Corequisites: none
Equivalent course(s): WLDR 124

<p>Use a checkmark (✓) to rate yourself as follows for each learning outcome</p> <p>Competent: I can apply this outcome without direction or supervision. Learning: I am still learning skills and knowledge to apply this outcome. None: I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Describe SMAW safety concerns.			
2. Describe the power supply, components and accessories required for proper operation of a SMAW workstation.			
3. Identify SMAW electrodes.			

WLDR 143 - Shielded Metal Arc Welding Shop 1

You will develop skills in welding steel in flat and horizontal positions. You will perform surface buildup and weld bead placement.

Credit unit(s): 8.0
Prerequisites: none
Corequisites: none
Equivalent course(s): WLDR 125

<p>Use a checkmark (✓) to rate yourself as follows for each learning outcome</p> <p>Competent: I can apply this outcome without direction or supervision. Learning: I am still learning skills and knowledge to apply this outcome. None: I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Demonstrate safe work procedures.			
2. Set up a shielded metal arc welding (SMAW) welding station.			
3. Perform surface build up using E7014 and E7018.			
4. Weld ¼" mild steel, three pass, t-joint, horizontal fillet E7018.			
5. Weld ¼" mild steel, three pass, horizontal, t-joint using E702.			

WLDR 144 - Oxy-Fuel Processes (Theory)

You will develop the knowledge required to select, set up, operate, and maintain oxy-fuel welding (OFW) and cutting equipment.

Credit unit(s): 1.0
Prerequisites: none
Corequisites: none
Equivalent course(s): none

<p>Use a checkmark (✓) to rate yourself as follows for each learning outcome</p> <p>Competent: I can apply this outcome without direction or supervision. Learning: I am still learning skills and knowledge to apply this outcome. None: I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Describe setup, use, and shut down procedures.			
2. Describe oxy-fuel equipment and accessories.			
3. Describe oxy-fuel welding (OFW), brazing, braze welding and soldering.			

WLDR 145 - Oxy-Fuel Processes (Shop)

You will learn to set up and use oxy-fuel equipment to weld, braze and solder.

Credit unit(s): 2.0
Prerequisites: none
Corequisites: none
Equivalent course(s): none

<p>Use a checkmark (✓) to rate yourself as follows for each learning outcome</p> <p>Competent: I can apply this outcome without direction or supervision. Learning: I am still learning skills and knowledge to apply this outcome. None: I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Demonstrate safe setup, use, and shut down procedures of oxy-fuel welding (OFW) equipment.			
2. Weld gauge metal, flat, square groove butt joint.			
3. Perform brazing, braze welding and soldering.			

WLDR 146 - Oxy-Fuel and Thermal Cutting

You will use freehand and guided methods for cutting mild steel. You will perform straight cuts, bevel cuts and pierce holes in the plate. You will use a guide to do straight cuts, bevel cuts and cut circles from plate. You will perform plasma arc cutting and gouging. Air carbon arc gouging will be performed.

Credit unit(s): 3.0
Prerequisites: none
Corequisites: none
Equivalent course(s): WELD 104

<p>Use a checkmark (✓) to rate yourself as follows for each learning outcome</p> <p>Competent: I can apply this outcome without direction or supervision. Learning: I am still learning skills and knowledge to apply this outcome. None: I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Describe the oxy-fuel cutting process.			
2. Describe oxy-fuel cutting (OFC), plasma arc cutting, gouging and carbon arc air gouging equipment.			
3. Describe safety concerns related to OFC plasma arc cutting and gouging and carbon arc air gouging.			
4. Complete 90 degree and bevel cuts using manual oxy-fuel equipment.			
5. Cut structural shapes using oxy-fuel process.			
6. Cut plate using the machine track torch.			
7. Cut plate using plasma arc cutting.			
8. Observe CNC plasma arc cutting equipment and process.			
9. Perform air carbon arc gouging.			

WLDR 147 - Wire Feed Welding Process Theory

You will develop the knowledge required to safely select, setup and maintain power supply components, electrodes, flux, and shielding gases.

Credit unit(s): 1.0
Prerequisites: none
Corequisites: none
Equivalent course(s): none

Use a checkmark (✓) to rate yourself as follows for each learning outcome		Competent	Learning	None
Competent:	I can apply this outcome without direction or supervision.			
Learning:	I am still learning skills and knowledge to apply this outcome.			
None:	I have no knowledge or experience related to this outcome.			
1.	Describe the components and operation of a gas metal arc welding (GMAW) welding station.			
2.	Describe GMAW safety concerns.			
3.	Describe the equipment and consumables of metal-cored arc welding (MCAW) and flux-cored arc (FCAW) welding.			

WLDR 149 - Canadian Welding Bureau W47.1 Welder Qualification

You will complete the Canadian Welding Bureau (CWB) welder qualification W47.1 assessments using the shielded metal arc welding (SMAW), gas metal arc welding (GMAW) and flux-cored arc welding (FCAW) processes for the flat groove-fillet (1GF) assessment.

Credit unit(s): 3.0
Prerequisites: none
Corequisites: none
Equivalent course(s): none

<p>Use a checkmark (✓) to rate yourself as follows for each learning outcome</p> <p>Competent: I can apply this outcome without direction or supervision. Learning: I am still learning skills and knowledge to apply this outcome. None: I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Describe how Canadian Standards Association standard W47.1 is administered by the Canadian Welding Bureau.			
2. Interpret the qualification descriptors.			
3. Complete the SMAW 1GF assessment.			
4. Complete the GMAW 1GF assessment.			
5. Complete the FCAW 1GF assessment.			

WLDR 150 - Introduction to Gas Tungsten Arc Welding

You will use the gas tungsten arc welding (GTAW) process on carbon steel, stainless steel and aluminum material.

Credit unit(s): 2.0
Prerequisites: none
Corequisites: none
Equivalent course(s): none

<p>Use a checkmark (✓) to rate yourself as follows for each learning outcome</p> <p>Competent: I can apply this outcome without direction or supervision. Learning: I am still learning skills and knowledge to apply this outcome. None: I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Describe gas tungsten arc welding (GTAW) equipment, accessories, operation and safety concerns.			
2. Weld carbon steel corner, lap and t-joint fillet weld assembly.			
3. Weld stainless steel corner, lap and t-joint fillet weld assembly.			
4. Weld aluminum corner, lap and t-joint fillet weld assembly.			

WLDR 163 - Shielded Metal Arc Welding Shop 2

You will perform welds in flat, vertical, and overhead positions using F3 and F4 electrodes. You will be introduced to open root welding.

Credit unit(s): 4.0
Prerequisites: WLDR 143(concurrent)
Corequisites: none
Equivalent course(s): WLDR 126

<p>Use a checkmark (✓) to rate yourself as follows for each learning outcome</p> <p>Competent: I can apply this outcome without direction or supervision. Learning: I am still learning skills and knowledge to apply this outcome. None: I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Demonstrate safe work procedures.			
2. Weld 14-gauge, vertical down, lap-joint, fillet weld using E6010.			
3. Weld ¼" mild steel, three pass vertical fillet, E7018.			
4. Weld ¼" mild steel, three pass, t-joint, overhead fillet E7018WE.			
5. Weld 3/8", mild steel, flat, butt joint, single V groove weld using F3 and F4 electrodes.			

WLDR 164 - Wire Feed Welding Processes Shop 1

In this course you will be introduced to solid wire welding procedures such as weld sequencing, metal transfer types, weld positions and advanced waveforms on lite gauge materials. You will perform multiple pass welds using pulsed wave forms.

Credit unit(s): 4.0
Prerequisites: none
Corequisites: none
Equivalent course(s): none

<p>Use a checkmark (✓) to rate yourself as follows for each learning outcome</p> <p>Competent: I can apply this outcome without direction or supervision. Learning: I am still learning skills and knowledge to apply this outcome. None: I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Demonstrate safe Gas Metal Arc Welding (GMAW) work procedures.			
2. Setup a GMAW weld station.			
3. Perform surface build up in flat position.			
4. Weld 14-gauge, T-joint, vertical down.			
5. Weld 12-gauge, circular lap joint, flat, vertical down and overhead.			
6. Weld 14-gauge, butt joint, vertical down.			
7. Weld vertical up t-joint ¼" 3 pass using pulse wave forms.			

WLDR 165 - Wire Feed Welding Processes Shop 2

You will develop your abilities with solid wire GMAW in the horizontal and overhead positions. You will be introduced to flux cored, metal cored and aluminum wire feed welding processes. You will perform open root welds with solid wire in the flat and vertical positions.

Credit unit(s): 4.0
Prerequisites: WLDR 148(concurrent)
Corequisites: none
Equivalent course(s): none

<p>Use a checkmark (✓) to rate yourself as follows for each learning outcome</p> <p>Competent: I can apply this outcome without direction or supervision. Learning: I am still learning skills and knowledge to apply this outcome. None: I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Weld 3/8" mild steel, horizontal, T-joint, 3 pass fillet, spray transfer.			
2. Weld 3/16" mild steel, T-joint, overhead, 3 pass fillet.			
3. Weld structural shapes, horizontal fillet, using metal-cored arc welding (MCAW).			
4. Weld 1/4" mild steel, T-joint, vertical, 3 pass fillet, using flux-cored arc welding (FCAW).			
5. Weld aluminum horizontal T-joint.			
6. Weld 3/8" mild steel, V-groove butt joint in flat position.			
7. Weld 3/8" mild steel, V-groove butt joint in vertical position.			

WORK 119 - Work Experience

You will spend one week in industry to demonstrate trade and essential workplace skills. Industrial placements provide the learner with on-the-job training and access to potential employment.

Credit unit(s): 0.0
Prerequisites: none
Corequisites: none
Equivalent course(s): none

<p>Use a checkmark (✓) to rate yourself as follows for each learning outcome</p> <p>Competent: I can apply this outcome without direction or supervision. Learning: I am still learning skills and knowledge to apply this outcome. None: I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Investigate work placement options to be approved by instructor.			
2. Demonstrate safety in the workplace.			
3. Demonstrate the essential workplace skills needed to be successful in the workplace.			
4. Apply trade skills in shop activities.			