Welding Applied Certificate

PLAR Candidate Guide

Prior Learning Assessment and Recognition (PLAR)

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

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. Proof of may be required for some applicants. English language proficiency may be required for some applicants.

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** assessment plan with your assigned assessor**.**
7. **Complete** assessment before your PLAR registration expires.

E. PLAR contact person

Contact the person below to arrange a consultation **after** you have read this guide and general PLAR information **and** rated yourself for each course (see next session). 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
Welding Certificate/Applied Certificate/Fabricator-Welder Certificate
Saskatchewan Polytechnic, Saskatoon Campus
Phone: 306 – 659 - 4081
Email: schaani@saskpolytech.ca

Doug Boos, Program Head
Welding Certificate/Applied Certificate
Saskatchewan Polytechnic, Regina Campus
Phone: 306-775-7736
Email: boos@saskpolytech.ca

F. Self 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
INDG 100	Introduction to Indigenous Studies	Art & Sciences
COMM 127	Fundamental Communication Skills	Arts & Sciences
COMM 172	Introduction to Microsoft Word and Excel	
MATH 169	Trade Mathematics	
METL 100	Metallurgy and Heat Treatment of Metals	
PRINT 114	Blueprint Interpretation	
SFTY 103	Welding Safety	
WLDR 146	Oxy-Fuel/Plasma Arc Cutting	
WELD 121	Wire Feed Welding Processes Theory	
WLDR 164	Wire Feed Welding Processes Shop 1	
WLDR 165	Wire Feed Welding Processes Shop 2	

COURSE CODE	COURSE NAME	Delivered by another department/program
WLDR 144	Oxy-Fuel Process Theory	
WLDR 145	Oxy-Fuel Processes Shop	
WLDR 142	Shielded Metal Arc Welding Theory	
WLDR 143	Shielded Metal Arc Welding Shop 1	
WLDR 163	Shielded Metal Arc Welding Shop 2	
WORK 113	Work Experience	

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

Use a checkmark (✓) to rate yourself as follows for each learning outcome **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.	**Competent**	**Learning**	**None**
1. Describe Indigenous nations of Saskatchewan.			
2. Explain how colonization has impacted Indigenous peoples.			
3. Discuss current issues and possible solutions.			

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

Use a checkmark (✓) to rate yourself as follows for each learning outcome **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.	**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

Use a checkmark (✓) to rate yourself as follows for each learning outcome **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.	**Competent**	**Learning**	**None**
1. Create Word documents.			
2. Edit Word documents.			
3. Format Word documents.			
4. Create a spreadsheet.			
5. Use spreadsheet features.			

MATH 169 - Trade Mathematics

You will learn mathematical concepts commonly used in your trade. After reviewing basic arithmetic and basic equations, you will solve various algebra problems as applied to your trade. You will perform Imperial and Metric conversions, calculate the perimeter, area, and volume of many common shapes, and use Pythagorean theorem.

Credit unit(s): 2.0
Prerequisites: none
Corequisites: none
Equivalent course(s): MATH 125, MATH 187

Use a checkmark (✓) to rate yourself as follows for each learning outcome **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.	**Competent**	**Learning**	**None**
1. Use arithmetic to solve trade-related problems.			
2. Use measurement systems.			
3. Solve trade-related equations and formulas.			
4. Solve geometric problems.			

METL 100 – Metallurgy & Heat Treatment of Metals

You will become familiar with the physical and chemical properties of commonly used metals in the welding trade. You will study the effect of the heating and cooling cycle involved in welding operations (with particular attention given to the heat affected zone). You will also review the use of heat to correct distortion and to change the physical properties of metals, and the classification system for identifying metal.

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:** 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.	**Competent**	**Learning**	**None**
5. Identify ferrous metals.			
6. Identify non-ferrous metals.			
7. Identify structural metals.			
8. Describe the physical, chemical, and mechanical properties of metals.			
9. Describe metal heat processes.			
10. Describe the techniques to control and correct heat distortion.			

PRNT 114 – Blueprint Interpretation

You will develop your ability to read and interpret basic welding and fabricating drawings. The course covers the basic elements of a blueprint, weld symbols, joint types, structural shapes, developing a bill of material and using the Imperial and metric systems of measurement.

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:** 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.	**Competent**	**Learning**	**None**
1. Develop blueprints			
2. Develop working drawings			
3. Interpret welding symbols			
4. Set up weld joints			
5. Calculate material required			

SFTY 103 - Welding Safety

Your studies will focus on general safety as it applies to the welding trade. You will learn about firefighting equipment, organize a shop for safe welding operation and safely transport and store welding supplies. You will also learn basic rigging techniques. You will study the Workplace Hazardous Materials Information System (WHMIS) and be introduced to Occupational Health and Safety Act and regulations.

Credit unit(s): 2.0
Prerequisites: none
Corequisites: none
Equivalent course(s): SFTY 114

Use a checkmark (✓) to rate yourself as follows for each learning outcome **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.	**Competent**	**Learning**	**None**
1. Describe the Workplace Hazardous Materials Information System (WHMIS) and Occupational Health and Safety.			
2. Identify hazards in the workplace.			
3. Describe firefighting equipment and procedures.			
4. Describe proper methods of transportation and storage welding supplies.			
5. Apply rigging techniques.			

WLDR 146 - Oxy-Fuel/Plasma Arc 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

Use a checkmark (✓) to rate yourself as follows for each learning outcome **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.	**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 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

Use a checkmark (✓) to rate yourself as follows for each learning outcome **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.	**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

Use a checkmark (✓) to rate yourself as follows for each learning outcome **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.	**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 ¼" 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.			

WLDR 144 - Oxy-Fuel Process Theory

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

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:** 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.	**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 set up and use oxy-fuel equipment to weld, braze and solder.

Credit unit(s): .0
Prerequisites: none
Corequisites: none
Equivalent course(s): none

Use a checkmark (✓) to rate yourself as follows for each learning outcome **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.	**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 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

Use a checkmark (✓) to rate yourself as follows for each learning outcome **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.	**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): 4.0
Prerequisites: none
Corequisites: none
Equivalent course(s): WLDR 125

Use a checkmark (✓) to rate yourself as follows for each learning outcome **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.	**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 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

Use a checkmark (✓) to rate yourself as follows for each learning outcome **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.	**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 121 - Gas Metal Arc Welding 1

You will be introduced to the gas metal arc welding process. The course content includes setting and adjusting the welding equipment for welding steel and aluminum. You will also receive an introduction to flux core welding.

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:** 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.	**Competent**	**Learning**	**None**
1. Set up GMAW equipment for mild steel.			
2. Select type of metal transfer.			
3. Set up GMAW equipment for aluminum welding.			
4. Set up GMAW equipment for flux core welding.			

WORK 113 – Work Experience

You will participate in a work placement to further your understanding of workplace employer needs. You will become familiar with the industry and gain practical experience in the welding field.

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

Use a checkmark (✓) to rate yourself as follows for each learning outcome **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.	**Competent**	**Learning**	**None**
1. Demonstrate employability skills needed in the workplace.			
2. Apply technical/practical skills.			