Plumbing and Pipefitting 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
B. PLAR eligibility and options
C. Dates when PLAR assessment is available
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E. PLAR contact person
F. Self-rating course outlines

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.

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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
DRAW 101	Blueprint Reading	
INDG 100	Introduction to Indigenous Studies	Arts & Sciences
JOBS 125	Essentials Job Skills	Arts & Sciences
MATH 112	Trade Math	Arts & Sciences
PIPE 102	Pipe Fabrication Theory	
PIPE 103	Pipe Fabrication Shop	
PLMB 102	Codebook Theory	
PLMB 103	Gasfitting Theory	
PLMB 104	Gasfitting Shop	
PROJ 118	In-House Projects	
SFTY 139	Trade Related Safety	

COURSE CODE	COURSE NAME	Delivered by another department/program
TOOL 118	Basic Tools and Materials Theory	
TOOL 119	Basic Tools and Materials Shop	
WLDR 135	Welding	
WORK 105	Work Experience	

DRAW 101 - Blueprint Reading

You will study drafting fundamentals and practice line drawing techniques, applying them to orthographic and isometric projections. You will apply industry symbols and language as it applies to blueprints and specifications. You will produce and interpret basic shop drawings and piping sketches as used at a typical work site.

Credit unit(s): 3.0
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. Explain drafting tools.			
2. Use drafting tools.			
3. Discuss graphics language, measurements, and standards.			
4. Explain graphical single line projections.			
5. Draw orthographic projections.			
6. Draw isometric projections.			
7. Draw sectional views.			

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.			

JOBS 125 - Essential Job Skills

You will develop essential job skills by preparing job search documents and practicing effective interpersonal communication skills for the workplace.

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. Discuss effective workplace interpersonal communications.			
2. Prepare job search documents.			

MATH 112 - Trade Math

You will solve mathematics problems within the construction industry. You will convert units of measurement using the Imperial and Metric systems. You will then apply your knowledge to solve geometric problems found in the construction industry involving perimeters, areas, and volume.

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. Use basic mathematics.			
2. Solve geometric problems in the construction Industry.			

PIPE 102 - Pipe Fabrication Theory

You will discuss trigonometry as it applies to the piping trades. You will learn piping layout, pipe fabrication, support, and sleeving techniques. You will be introduced to the common piping materials utilized within the two trades. You also will define piping system protection and system commissioning.

Credit unit(s): 3.0
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. Discuss piping system layout.			
2. Discuss piping system measurements.			
3. Explain piping system offsets.			
4. Discuss common piping materials.			
5. Explain piping support and protection.			
6. Define piping system commissioning.			

PIPE 103 - Pipe Fabrication Shop

You will work with copper, plastic, and steel piping materials to assemble shop projects. You will apply trigonometry and pipe fitting functions for solving piping offsets, and piping installations. You will install piping supports and sleeves in accordance to codebook protocols for optimal systems protection. You will test the piping systems in accordance with codes and the local authority having jurisdiction.

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. Join hybrid piping offset.			
2. Join threaded steel piping offset.			
3. Join roll-grooved piping offset.			
4. Commission project piping system and supports.			

PLMB 102 - Codebook Theory

You will practice the fundamental use of the National Plumbing Code of Canada (NPC). You will explain the components of a potable water system and a drainage and vent system. You will apply the NPC in sizing the components of drainage and vent systems.

Credit unit(s): 3.0
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. Explain piping components.			
2. Explain drainage piping and components.			
3. Explain venting.			
4. Size drainage, waste, and venting (DWV) line drawings.			
5. Discuss rough in requirements.			

PLMB 103 - Gasfitting Theory

You will develop the required skills necessary for the installation of a domestic gas piping system. You will be introduced to the gas science applications used in industry, along with the code requirements for proper piping installations. The course emphasizes the safety factors involved in working with natural and propane gas and the importance of accurate code interpretation.

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. Explain the B149.1 gas codebook applications.			
2. Describe the Saskatchewan codes of practice.			
3. Discuss scientific properties for natural, propane and butane gases.			
4. Identify the combustion data for natural, propane and butane gases.			
5. Explain the delivery system for natural and propane gases.			
6. Explain testing procedures for gas piping systems.			

PLMB 104 - Gasfitting Shop

You will develop skillsets used for the installation of a domestic gas piping system. You will develop pressure testing protocols used in the gasfitting field. The course emphasizes the safety factors involved in working with natural gas and the importance of accurate code interpretation.

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. Rough-in an instructor sized natural gas domestic piping system.			
2. Perform initial testing.			
3. Practice inspection protocols.			
4. Perform final meter test			
5. Perform a safe purge.			

PROJ 118 - In-House Projects

You will plumb drainage waste and venting to a mockup house, you will install fixtures and install water lines to the fixtures.

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. Install drainage waste and venting piping.			
2. Install water lines.			
3. Install fixtures.			
4. Test the plumbing system.			

SFTY 139 - Trade Related Safety

You will study general safety as it applies to the plumbing and pipefitting trades. You will be introduced to the Workplace hazardous Materials Information System (WHMIS) and articles of the Occupational Health and Safety OH&S) Act & Regulations that apply to these two trades.

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. Discuss safe work practices.			
6. Discuss WHMIS.			
7. Discuss lockout and tag out procedures.			
8. Demonstrate safe work practices.			
9. Apply WHMIS.			
10. Perform lockout and tag out procedures.			

TOOL 118 - Basic Tools and Materials Theory

You will identify hand and power tools utilized in the Plumber and Steamfitter trades. You will study rigging techniques associated with crane lifts and hand rigging equipment. You will discuss crane types, crane safety and signaling techniques. You will study slings, sling configurations and knots used during hoists and lifts. You will also discuss soldering and brazing procedures for similar and dis-similar metals.

Credit unit(s): 3.0
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. Discuss the use and care of hand and power tools.			
2. Discuss access equipment.			
3. Explain rigging equipment and procedures.			
4. Discuss load weight calculations.			
5. Discuss knots and hitches.			
6. Explain soldering and brazing equipment.			

TOOL 119 - Basic Tools and Materials Shop

You will use hand and power tools utilized in the plumbing and pipefitting trades. You will practice safe lifting and moving techniques for materials and equipment used in the shop. You will apply basic rigging techniques and crane signals for hoisting pipe bundles, valves and other trade related materials and equipment. You will practice soldering and brazing with similar and dissimilar metals.

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. Demonstrate the safe use and care of hand and power tools.			
2. Demonstrate access equipment use.			
3. Demonstrate hoisting, lifting, and rigging techniques.			
4. Tie knots and hitches.			
5. Perform soldering and brazing.			

WLDR 135 - Welding

You will identify the safe assembly, operation and maintenance of oxy-fuel cutting (OFC) and Gas Metal Arc Welding (GMAW) processes. You will also demonstrate the safe operation of oxy-fuel cutting (OFC) and Gas Metal Arc Welding (GMAW).

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. Describe the safe assembly, operations, shut down and equipment for oxy-fuel cutting (OFC).			
2. Describe the safe assembly, operations, shut down and equipment for Gas Metal Arc Welding (GMAW).			
3. Describe the safe assembly, operations, shut down and equipment for Gas Metal Arc Welding (GMAW).			
4. Demonstrate the safe set up, operation and maintenance when performing GMAW in multiple positions.			
5. Demonstrate the safe set up, operation and maintenance when performing GMAW in multiple positions.			

WORK 105 - Work Experience

You will gain valuable experience through a two-week (60 hour) job placement in industry. You will have the opportunity to apply your trade-related technical skills as you increase your understanding of the workplace and employer's needs.

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 time management skillsets on jobsite.skills			
2. Use trade tools.			
3. Work efficiently while under jobsite supervision.			
4. Communicate job related tasks effectively.			
5. Maintain a safe work site.			