Machinist - 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.

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.

Evan Wollbaum, Program Head
Saskatchewan Polytechnic, Regina Campus
Email: wollbaumev@saskpolytech.ca

Emmet Jacklin, Program head
Saskatchewan Polytechnic, Saskatoon Campus
Email: jacklin@saskpolytech.ca

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 104	Benchwork 1	
BESK 105	Benchwork 2	
BESK 106	Benchwork 3	
COMM 127	Fundamental Communication Skills	Arts & Sciences
DRAW 100	Technical Drawing	Arts & Sciences
INDG 100	Introduction to Indigenous Studies	Arts & Sciences
MACH 101	Drilling Machine Operations	
MACH 102	Precision Grinding Operations	
MACH 105	Sawing Operations	
MACH 122	CNC Basics	
MACH 123	CNC Lathe	
MACH 124	CNC Mill	

COURSE CODE	COURSE NAME	Delivered by another department/program
MACH 125	Lathe Operations 1	
MACH 126	Lathe Operations 2	
MACH 127	Lathe Operations 3	
MACH 128	Lathe Operations 4	
MACH 129	Manual Milling Machine 1	
MACH 130	Manual Milling Machine 2	
MATE 100	Materials Selection	
MATH 104	Applied Mathematics	Arts & Sciences
MEAS 100	Precision Measurement	
PRNT 100	Blueprint Reading	Arts & Sciences
SAFE 117	Safe Working Environment	
THER 100	Heat Treatment Processes	
WELD 102	Welding Operations	
WORK 100	Industrial Attachment	

BESK 104 - Benchwork 1

You will study semi-precision benchwork processes, handheld cutting tools, and produce parts with these methods.

Credit unit(s): 3.0
Prerequisites: MEAS 100(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. Use benchwork tools.			
2. Identify basic semi-precision layout tools.			
3. Perform semi-precision layout.			
4. Select metals.			
5. Identify files and hacksaws.			
6. Use files and hacksaws.			
7. Finish surfaces.			

BESK 105 - Benchwork 2

You will study precision layout, offhand grinding, and more advanced handheld tools.

Credit unit(s): 0.0
Prerequisites: BESK 104(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. Identify safe practices for offhand grinding.			
2. Identify precision layout tools and techniques.			
3. Perform precision layout.			
4. Sharpen twist drills by offhand grinding.			
5. Use power tools.			
6. Discuss chisels and metal snips.			
7. Discuss internal key-seating operations.			
8. Operate presses and pullers.			

BESK 106 - Benchwork 3

You will study hand threading operations and mechanical hardware. You will perform threading and thread restoration procedures.

Credit unit(s): 2.0
Prerequisites: BESK 105(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. Identify mechanical hardware.			
2. Use digital and print resources to establish application parameters for hand threading operations.			
3. Choose cutting fluids.			
4. Perform hand threading operations.			
5. Remove broken studs and taps.			
6. Install thread repair devices.			

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.			

DRAW 100 - Technical Drawing

You will study how to use drawing instruments and Computer-Aided Design (CAD) systems and apply drafting standards to produce drawings and sketches for parts production.

Credit unit(s): 4.0
Prerequisites: none
Corequisites: none
Equivalent course(s): DRFT 191

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. Use various drawing instruments.			
6. Demonstrate orthographic drawing skills.			
7. Use dimensioning standards.			
8. Apply tolerancing standards.			
9. Construct sectional views.			
10. Construct auxiliary views.			
11. Determine coordinate data for job plans and tool path generation.			
12. Construct isometric 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.			

MACH 101 - Drilling Machine Operations

You will study how to set up, operate and maintain various drilling machines. You will perform drilling, reaming, and tapping operations.

Credit unit(s): 3.0
Prerequisites: none
Corequisites: BESK 105
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 care and maintenance of drilling equipment.			
2. Select feeds and speeds for drilling operations.			
3. Select work-holding devices for drilling operations.			
4. Identify hole-making tools.			
5. Produce drilled holes.			
6. Produce reamed holes.			
7. Perform countersinking, counterboring and spot-facing operations.			
8. Produce tapped holes by hand on a drill press.			
9. Produce threaded holes by power tapping.			

MACH 102 - Precision Grinding Operations

You will set up, operate, and maintain various precision grinding machines. You will select, mount and balance grinding wheels.

Credit unit(s): 3.0
Prerequisites: MEAS 100
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 care and maintenance of grinding equipment.			
2. Discuss grinding wheel properties and applications.			
3. Perform truing, dressing, and balancing operations.			
4. Setup precision grinders.			
5. Operate a surface grinder.			
6. Operate a center type cylindrical grinder.			
7. Discuss honing operations.			

MACH 105 - Sawing Operations

You will select and mount blades, calculate blade lengths and perform sawing operations.

Credit unit(s): 1.0
Prerequisites: MEAS 100
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 care and maintenance of sawing equipment.			
2. Describe the use of vertical and horizontal band saws, cold saws, and abrasive cut off saws.			
3. Operate vertical and horizontal band saws.			

MACH 122 - CNC Basics

You will study the principles and practices for programming and operating Computer Numerical Control (CNC) machine tools.

Credit unit(s): 1.0
Prerequisites: MATH 104(concurrent), MEAS 100(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. Demonstrate safe use and maintenance of equipment.			
2. Explain G-code programming on computer numerical control (CNC) machine.			
3. Describe the operating principles of the CNC machine.			

MACH 123 - CNC Lathe

You will create a computer numerical control (CNC) program to produce a project on the CNC lathe.

Credit unit(s): 3.0
Prerequisites: MACH 122(concurrent), MACH 125(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. Examine machining process steps on a CNC lathe.			
2. Calculate speed and feed-rate requirements for lathe operations.			
3. Calculate thread data.			
4. Write a CNC program for a 2-axis CNC lathe.			
5. Set up CNC lathe for operation.			
6. Run a CNC program on a 2-axis lathe to complete a project.			

MACH 124 - CNC Mill

You will create a computer numerical control (CNC) program to produce a project on the CNC mill.

Credit unit(s): 3.0
Prerequisites: MACH 122(concurrent), MACH 129(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. Examine machining process steps on a CNC mill.			
2. Calculate speed and feed-rate requirements for lathe operations.			
3. Write a CNC program for a 3-axis CNC mill.			
4. Setup CNC mill for operation.			
5. Run a CNC program on a 3-axis mill to complete a project.			

MACH 125 - Lathe Operations 1

You will study the lathe and basic lathe work holding, tool holding and operations, set up operation, maintain a lathe and perform facing, center drilling and turning operations.

Credit unit(s): 4.0
Prerequisites: MEAS 100(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. Discuss safe use and maintenance of lathe equipment.			
2. Discuss parts, controls, and work-holding devices of the lathe.			
3. Use lathe work holding devices.			
4. Discuss lathe cutting tool geometry.			
5. Perform lathe cutting tool set up.			
6. Calculate dimensional or locational data from engineer's drawings.			
7. Calculate speed and feed-rate requirements for lathe operations.			
8. Perform facing and center drilling operations.			
9. Perform turning operations.			
10. Use digital and print resources to establish application parameters for lathe operations.			

MACH 126 - Lathe Operations 2

You will study how to calculate speed and feed setting and set up a lathe to produce internal and external features. You will perform drilling and boring operations, internal and external grooving, knurling operations, parting operations, and basic tapering.

Credit unit(s): 4.0
Prerequisites: MACH 125(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. Perform knurling operations.			
2. Examine carbide insert tooling systems.			
3. Perform internal lathe operations.			
4. Perform grooving, parting, and tapping operations.			
5. Calculate internal and external tapers.			
6. Produce a steep taper using the compound rest.			
7. Calculate speed and feed rate requirements for metal cutting operations.			

MACH 127 - Lathe Operations 3

You will study how to set up a lathe to produce internal and external screw threads. You will perform internal and external thread operations and measure screw threads.

Credit unit(s): 4.0
Prerequisites: MACH 125(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. Discuss thread forms, applications, and measurement procedures.			
2. Calculate thread data.			
3. Perform external thread cutting operations.			
4. Perform thread measuring procedures.			
5. Perform internal thread operations.			
6. Perform Acme thread operations.			
7. Perform metric thread operations.			

MACH 128 - Lathe Operations 4

You will study how to set up lathe accessories including the steady rest, follower rest, and taper attachment. You will perform advanced tapering operations and produce mechanical features using these accessories.

Credit unit(s): 3.0
Prerequisites: MACH 125(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. Interpret taper data from engineering drawings.			
2. Perform taper turning.			
3. Use a steady rest.			
4. Use a follower rest.			
5. Discuss taper threading data.			
6. Perform taper thread cutting.			
7. Discuss tool post grinder operations.			

MACH 129 - Manual Milling Machine 1

You will study how to set up, operate and maintain various milling machines and attachments. You will select shank mounted cutters and perform vertical and horizontal milling operations.

Credit unit(s): 4.0
Prerequisites: MEAS 100(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. Discuss safe use and maintenance of milling equipment.			
2. Discuss parts and controls of a milling machine.			
3. Discuss milling work holding devices.			
4. Discuss the setup and alignment of milling machine components.			
5. Use milling work holding devices.			
6. Discuss vertical milling cutters, operations vertical milling and tool-holding.			
7. Calculate feeds and speeds for vertical milling operations.			
8. Select vertical milling tool-holding.			
9. Discuss proper cutting fluids.			
10. Perform vertical milling operations.			
11. Calculate dimensional data from engineer's drawings.			

MACH 130 - Manual Milling Machine 2

You will study how to set up, operate and maintain various milling machine accessories. You will select arbor mounted cutters and perform angular and indexing operations.

Credit unit(s): 4.0
Prerequisites: MACH 129(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. Discuss offset boring head.			
2. Use an offset boring head.			
3. Discuss indexing heads.			
4. Operate indexing heads.			
5. Discuss rotary tables.			
6. Operate rotary tables.			
7. Discuss horizontal milling cutters.			
8. Select horizontal milling cutters.			
9. Calculate speeds and feeds for horizontal milling operations.			
10. Perform horizontal milling operations.			

MATE 100 - Materials Selection

You will identify mechanical properties of materials and the effect they have on machinability. You will also learn how to identify and select various materials for machining processes.

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. Perform material identification.			
2. Select ferrous metals.			
3. Select non-ferrous metals and non-metallic materials.			

MATH 104 - Applied Mathematics

You will solve practical problems using arithmetic, linear equations, geometry, and right triangle trigonometry. You will manipulate and use some formulas related to your trade.

Credit unit(s): 3.0
Prerequisites: none
Corequisites: none
Equivalent course(s): MATH 182, MATH 193

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. Solve practical problems involving arithmetic.			
2. Perform calculations with the Imperial and metric systems of measurement.			
3. Solve practical problems involving linear equations.			
4. Solve practical problems involving trade formulas.			
5. Solve practical problems involving geometry.			
6. Solve practical problems involving trigonometry.			

MEAS 100 - Precision Measurement

You will study how to select and maintain measuring tools. You will perform semi-precision, precision, and comparison measurements procedures.

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 semi precision and precision measuring systems.			
2. Measure with semi-precision measuring tools.			
3. Measure with vernier calipers and vernier depth gauges.			
4. Measure with inch micrometers.			
5. Measure with metric micrometers.			
6. Measure with universal bevel protractor.			
7. Use comparison measuring instruments.			
8. Measure with precision inspection instruments.			
9. Demonstrate use and care of the sine bar.			

PRNT 100 - Blueprint Reading

You will study blueprint reading terminology and standards and interpret blueprints.

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. Interpret orthographic views.			
2. Interpret tolerances.			
3. Identify dimensioning styles.			
4. Describe workpiece specifications and features.			
5. Calculate required dimensions of features.			
6. Discuss machining procedures related to manufacturing parts.			

SAFE 117 - Safe Working Environment

You will study the application of WHMIS in the Machinist trade. You will discuss the roles and responsibilities of employees and employers in the workplace.

Credit unit(s): 1.0
Prerequisites: none
Corequisites: none
Equivalent course(s): EMPS 102

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 safety roles and responsibilities of the employee and employer in the workplace.			
2. Explain WHMIS (Workplace Hazardous Materials Information System).			
3. Discuss safe rigging practices.			

THER 100 - Heat Treatment Processes

You will study and perform various heat treatment processes and hardness-testing procedures.

Credit unit(s): 1.0
Prerequisites: MATE 100
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. Select heat treatment processes.			
2. Perform hardness testing.			
3. Perform hardening, case hardening and tempering operations.			

WELD 102 - Welding Operations

You will operate welding equipment to perform welding operations including joining materials and metal cutting.

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 operation, assembly and maintenance of an oxy-fuel system when cutting various shapes and gauges of metal.			
2. Demonstrate the safe operation, assembly and maintenance of the GMAW process when welding various gauges of metals.			
3. Demonstrate the safe operation, assembly and maintenance of Plasma Arc cutting equipment when cutting various ferrous and non-ferrous metals.			

WORK 100 - Industrial Attachment

You will study workplace and employer needs as you participate in a work placement.

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.			
2. Apply trade skills to shop activities.			
3. Observe daily operations of a real-world machine shop environment.			
4. Observe safe work practices.			