Software Developer
Post Graduate 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
D. Special directions for this program
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
Semester 1		
COSC 600	Introduction to Programming 1	
COSC 601	Introduction to Programming 2	
CWEB 600	Website Development	
CWEB 601	Internet Programming and Web Apps 1	
CWEB 603	Software Development Fundamentals	
Semester 2		
CDBM 601	Database Management Systems	
COSC 602	Intermediate Programming 1	
COSC 603	Intermediate Programming 2	
COSC 604	Advanced Programming	
CWEB 602	Internet Programming	
Semester 3		

COURSE CODE	COURSE NAME	Delivered by another department/program
PROJ 602	Capstone Project	
TCOM 601	Technical Communications	Arts & Sciences
INDG 600	Indigenous Studies	Arts & Sciences

COSC 600 - Introduction to Programming 1

You will learn concepts used in programming. You will create programs that use variables, allow for user input and output, and provide opportunities for simple decision strategies. You will also learn how to work with different variable types and how to debug programs. In addition, you will create and use strategies that involve repetition (looping) in your programs. You will create methods and work with elementary data. The content in COSC 600 will prepare you for COSC 601 - Introduction to Programming II.

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 programming terminology.			
2. Develop a Java Program using Java tools and styling Conventions.			
3. Perform elementary programming.			
4. Use a debugging tool.			
5. Create a program that uses strings and mathematical library routines.			
6. Create a program that uses operators and decision statements.			
7. Create a program using repetition structures.			
8. Create a program using methods.			
9. Troubleshoot a defective program.			

COSC 601 - Introduction to Programming 2

You will develop problem-solving skills through the use of detailed algorithms and be introduced to structured and object oriented design techniques. The course content includes continuing the evolution of methods, encapsulation, instantiating and using objects. You will study the following topics: overriding and abstract methods, interfaces, inheritance, dynamic binding, and polymorphism.

Credit unit(s): 3.0
Prerequisites: COSC 600
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 arrays to manage collections of primitive values or object references.			
2. Analyze common array algorithms for searching and sorting.			
3. Create a program using objects and object oriented techniques.			
4. Design reusable classes using inheritance and interfaces.			
5. Design extensible classes through polymorphism.			

CWEB 600 - Website Development

You will learn how to use Hypertext Markup Language (HTML) to develop Web pages for delivery over the World Wide Web. You will also learn how to plan and develop HTML documents to build a Web site based on W3 standards and enhance HTML documents using current techniques such as Cascading Style Sheets (CSS).

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. Create hypertext documents.			
2. Design web pages using fonts and colours.			
3. Design web page layouts.			
4. Design web sites using backgrounds and other effects.			
5. Design device-independent websites.			
6. Design web pages using tables and columns.			
7. Create web page forms.			
8. Design web pages using multimedia resources.			
9. Create Extensible Markup Language (XML) documents.			

CWEB 601 - Internet Programming and Web Apps 1

You will receive instruction and practice in the development of client-side Web applications. You will use javascript to improve Web page design, validate forms, detect browsers, create cookies, and detect and respond to user actions.

Credit unit(s): 3.0
Prerequisites: CWEB 600
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 how javascript functions with Web pages.			
2. Use javascript language constructs.			
3. Construct custom javascript objects.			
4. Use the Browser Object Model.			
5. Manage form data with javascript.			
6. Create Dynamic Hypertext Markup Language (DHTML) Web pages.			
7. Manage state information and security.			
8. Manage state information and security.			

CWEB 603 - Software Development Fundamentals

You will study the concepts of User Experience (UX) which encompass a wide range of activities including User Interface (UI) design, Information Architecture (IA) and field research. You will learn about usability design and testing, tight integration and collaboration with software development processes which are elements of User Experience (UX). You will develop a better understanding of the role of User Experience/User Interface (UX/UI) as you follow an iterative and agile approach which focuses on User-Centered Design (UCD) as the motivator for product direction. You will learn how software is developed following an agile process methodology as well as how to manage program code using a version control system.

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. Examine User Centered Design (UCD practices).			
2. Provide examples of user (UXR) research techniques.			
3. Use persona and user stories.			
4. Develop effective user flows that support intuitive navigation and use.			
5. Illustrate the aspects of UI design.			
6. Use interaction mapping (including antipatterns).			
7. Create and evaluate prototypes for an interface design.			
8. Describe agile development methodology.			
9. Manage software code with a version control system.			

CDBM 601 - Database Management Systems

You will explore the design and development of a relational database to store data for an application. You will learn modeling techniques to convert the data storage requirements of the client into specifications for a relational database. You will become familiar with normalization, a technique that helps ensure that database entity and referential integrity are maintained during creation, update, and deletion of data. You will employ Structured Query Language (SQL) to access and manipulate data within the database. You will employ views to simplify query development. Finally, you will be presented with descriptions and concepts of non-relational databases.

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. Model users' data requirements using conceptual modeling techniques.			
2. Transform data models into normalize database designs.			
3. Maintain entity and referential integrity through constraints.			
4. Implement relational database designs.			
5. Design SQL statements to manipulate data from multiple tables.			
6. Design views.			
7. Describe the concepts of non-SQL databases.			

COSC 602 - Intermediate Programming 1

You will receive instruction in working with common array algorithms and creating recursive methods. You will learn to use exception-based programming techniques to handle runtime errors. You will become familiar with and be able to manipulate such advanced data structures as stacks and queues. You will learn functional programming and build interactive Graphical User Interface (GUI) based applications.

Credit unit(s): 3.0
Prerequisites: COSC 601
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. Create recursive methods.			
2. Design robust programs using appropriate exception handling.			
3. Use dynamic data structures.			
4. Use functional programming techniques.			
5. Design programs that present information through a Graphic User Interface (GUI).			

COSC 603 - Intermediate Programming 2

You will receive instruction in working with data structures. You will study introductory concepts related to test driven development (TDD), thread-based programming, network programming and database programming. You will use standard file input/output techniques.

Credit unit(s): 3.0
Prerequisites: COSC 602
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 programs using test driven development techniques.			
2. Design programs for data storage and retrieval from files.			
3. Create programs that use multithreading.			
4. Create programs that use networking technique.			
5. Create programs that access remote databases.			

COSC 604 - Advanced Programming

You will become familiar with the concept of an abstract data type. You will use the abstract data type to define various data structures that have useful characteristics which can be exploited to solve problems efficiently. You will study the use of predefined abstract data types and user defined abstract data types to improve program modularity and efficiency. Your studies will include the design and implementation of abstract data types using objected oriented techniques. Topics will include alternative implementations of data structures and sorting techniques using interfaces, collections and iterators. You will use graph data structure and associated algorithms to solve problems efficiently.

Credit unit(s): 3.0
Prerequisites: COSC 603, COSC 602
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 an abstract data type.			
2. Create linked list data structure using abstract data types.			
3. Generate a class from the abstract data type – Binary Tree.			
4. Generate a class from the abstract data type – Balanced Binary Tree.			
5. Generate a class from the abstract data type – Hash Table.			
6. Generate a class from the abstract data type - Graph.			
7. Implement graph algorithms to solve common problems.			

CWEB 602 - Internet Programming and Web Apps 2

You will receive instruction and practice in the development of server-side Web applications. You will learn how to write scripts that allow remote users to interface with databases existing on a World Wide Web server. You will become familiar with server-side programming to display website content dynamically as required.

Credit unit(s): 3.0
Prerequisites: CWEB 601, CDBM 600
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. Construct web pages using server side language features.			
2. Construct secure web pages using server-side objects.			
3. Create secure server-side objects to connect to a database.			
4. Design secure server-side web pages to retrieve data stored in a database.			
5. Develop progressive web applications for retrieval of web pages data.			
6. Develop progressive web applications for storage of web page data.			

PROJ 602 - Capstone Project

You will learn how to work in a group to plan and execute a major IT project. You will manage and monitor the project and produce documentation to communicate effectively with your stakeholders.

Credit unit(s): 3.0
Prerequisites: COSC 604, CDBM 601, CWEB 603
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. Propose a project methodology.			
2. Research the technical and design aspects required to complete the project.			
3. Manage scheduling to ensure timely completion of the project.			
4. Monitor the progress of a project.			
5. Manage the quality of the project process.			
6. Manage the quality of project deliverables.			
7. Present the outcome of the project to stakeholders.			
8. Close a project.			

TCOM 601 - Technical Communications

You will conduct effective meetings and produce supporting documents including emails. You will discuss technical report purposes and formats, write short technical reports and present technical information. You will also practice job search skills.

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. Conduct meetings.			
2. Use correct grammar and technical style.			
3. Create technical reports.			
4. Use job search skills.			
5. Present technical information.			

INDG 600 – Indigenous Studies

You will complete the Blanket Exercise to honour the Indigenous peoples in Canada. You will study the history of the relationships between European settlers and the Indigenous peoples from initial contact to present day. You will analyze the 94 Calls to Action of the Truth and Reconciliation Commission to redress the legacy of residential schools and advance Canadian reconciliation.

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. Complete the Blanket Exercise to honour Indigenous peoples in Canada.			
2. Examine the history of relationships between European Settlers and Indigenous peoples.			
3. Analyze the Truth and Reconciliation Commission of Canada and the 94 Calls to Action.			