Cloud Computing and Blockchain Post Graduate 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

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		
CCMP 600	Fundamentals of Cloud Computing	
CCMP 601	Fundamentals of Blockchain	
CCMP 602	Provisioning and Security of Cloud Resources	
CCMP 603	Introduction to Smart Contracts	
TCOM 600	Business Technology Communications	Arts & Sciences
Semester 2		
CCMP 604	Orchestration of Cloud Resources	
CCMP 605	Cloud Data Management	
CCMP 606	Integrated Services Using Smart Contracts	
DEVP 600	Business Innovation with Development Operations (DevOps)	

COURSE CODE	COURSE NAME	Delivered by another department/program
PROJ 611	Adoption of Cloud Computing and Blockchain Technology in the Industry	
INDG 600	Indigenous Studies	Arts & Sciences

CCMP 600 - Fundamentals of Cloud Computing

You will study the core concepts and features of cloud computing. You will explore cloud computing delivery services and network operations. Also, you will analyze cloud deployment models and determine their benefits and challenges.

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 the core concepts of cloud computing, economies of scale, and consumption-based model.			
2. Discuss cloud computing providers, Service-Level Agreements (SLA), and cloud service models.			
3. Explain cloud security and the shared-responsibility model.			
4. Explain cloud data management.			
5. Analyze the benefits and challenges of cloud-based solutions.			
6. Implement cloud cost management, monitoring, and billing.			

CCMP 601 - Fundamentals of Blockchain

You will study the core concepts and features of blockchain technologies. You will explore blockchain as a service. Also, you will analyze the benefits and challenges of cryptocurrencies and blockchain-based solutions and you will configure a blockchain network.

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 the features of blockchain technology.			
2. Explain blockchain networks.			
3. Discuss the impact of cryptocurrencies on the economy.			
4. Analyze data privacy, transparency, and reliability in blockchain-based applications.			
5. Configure a blockchain network.			
6. Implement blockchain as a service.			

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CCMP 602 - Provisioning and Security of Cloud Resources

You will be able to describe the characteristics of cloud computing providers. You will study the provisioning of cloud computing, storage, and networking resources. Finally, you will implement cloud-based solutions.

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 zero-trust security, authentication, and authorization.			
2. Discuss business continuity planning.			
3. Implement cloud compute resources and security controls.			
4. Implement cloud storage resources and security controls.			
5. Implement cloud networking resources and security controls.			
6. Implement cloud identity controls, security policies, and security analytics.			
7. Implement a cloud-based system and a disaster recovery strategy.			
8. Implement cloud monitoring and visualization.			

CCMP 603 - Introduction to Smart Contracts

You will discuss smart contracts and their functions. You will analyze the cost of designing and implementing smart contracts. You will explore smart contracts and their uses. You will analyze, design, and implement smart contracts.

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. Describe the features of smart contracts.			
2. Discuss the cost of smart contract implementations.			
3. Implement a centrally-managed smart contract.			
4. Implement a distributed-managed smart contract.			
5. Implement smart contract with off-chain components.			

TCOM 600 - Business Technology Communications

You will learn how to manage communication in a business environment using best practices and common software tools. You will learn how to produce effective content delivered with appropriate tools.

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. Write effective communication from template documents.			
2. Create long form documents using word processing software.			
3. Produce a workflow diagram in Visio.			
4. Create effective reports and dashboards with Excel.			
5. Integrate communication tools into an effective presentation.			
6. Prepare a Request for Proposal document using a standard process.			

CCMP 604 - Orchestration of Cloud Resources

You will study the microservice architecture. You will discuss how microservices and agile methodologies contribute to the development of portable, scalable, and extensible applications. You will create container-based applications.

Credit unit(s):	3.0
Prerequisites:	CCMP 600, CCMP 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. Explain the concepts of portability, scalability, and extensibility.			
2. Explain agile methodologies.			
3. Explain the modernization of infrastructures and applications.			
4. Discuss how the implementation of cloud systems would impact the life of indigenous people.			
5. Implement cloud microservices.			
6. Implement secure, high-available, and fault-tolerant cloud architectures.			
7. Implement a container-based application.			
8. Implement strategies for migrating on-premises services to the cloud.			
9. Implement the replacement of on-premise services with software as a service (SaaS) cloud solutions.			

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CCMP 605 - Cloud Data Management

You will study cloud data protection. You will delve into data modernization, databases, and file storage cloud solutions. Also, you will implement strategies for backup and data recovery.

Credit unit(s):	3.0
Prerequisites:	CCMP 600, CCMP 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. Discuss cloud privacy, compliance, and data protection.			
2. Discuss database modernization and security.			
3. Explain data residency and cross-border data mobility.			
4. Explain cloud data services cost and cost-effective applications.			
5. Implement a cloud database model and the security strategy.			
6. Implement a data migration strategy.			
7. Implement a data backup strategy.			
8. Implement a data recovery strategy.			

CCMP 606 - Integrated Services Using Smart Contracts

You will explore smart contracts and their uses. You will analyze the benefits and downsides of implementing smart contracts. You will implement different types of smart contracts. You will analyze, design, and implement distributed applications (DApps).

Credit unit(s):	3.0
Prerequisites:	CCMP 601, CCMP 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. Analyze the benefits and challenges of blockchain-based solutions.			
2. Analyze classical web applications and distributed applications (DApps).			
3. Analyze consistency, availability, and partition tolerance in DApps solutions.			
4. Implement smart contract interactions.			
5. Implement oracle smart contracts.			
6. Implement a distributed application (DApps).			

DEVP 600 - Business Innovation with Development Operations (DevOps)

You will discuss how to plan and provide continuous deployment of services and value to users. You will discuss cloud development operations (DevOps) services and strategies to automate processes. You will analyze DevOps cloud practices, strategies, models, and implementation processes.

Credit unit(s):	3.0
Prerequisites:	CCMP 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. Explain the culture of development operations (DevOps).			
2. Explain continuous delivery.			
3. Explain agile project management.			
4. Implement development operations (DevOps) cloud practices and strategies.			
5. Implement DevOps cloud automation.			
6. Implement DevOps monitoring.			
7. Implement a DevOps model.			

PROJ 611 - Adoption of Cloud Computing and Blockchain Technology in the Industry

You will analyze a business case. You will propose a solution that integrates cloud services and blockchain technology to design and implement a hybrid architecture. You will prepare a report and present your solution.

Credit unit(s):	2.0
Prerequisites:	CCMP 600, CCMP 602, CCMP 605
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. Analyze the requirements and strategic challenges of a business case following a project management methodology.			
2. Design a cloud-based architecture.			
3. Design a data management plan and implementation plan.			
4. Present the proposed architecture and data management and implementation plans.			
5. Implement the proposed solution.			
6. Create a report on the outcome of the project.			

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):	2.0
Prerequisites:	CCMP 600, CCMP 602, CCMP 605
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.			