Business Information Systems - Diploma

PLAR Candidate Guide

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

You must 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 assessment 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. **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.
5. **Finalize** a detailed Assessment Plan with your assigned assessor**.**
6. **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.

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Note: If the course you would like to PLAR is delivered by another program, click on that program's Candidate Guide (see below) to find your PLAR contact person.

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		
BCOM 120	Business communications 1	
CAPL 103	Professionalism and Career Readiness	
COMP 116	Introduction to Programming for Information Systems 1	
COMP 117	Introduction to Programming for Information Systems 2	
COMP 123	Introduction to Business Computing	
COMP 215	Web Application Development 1	
STAT 120	Business Statistics	
Semester 2		
ANTL 100	Introduction to Data Science	
BUS 104	Introduction to Business	
CNET 123	Introduction to Networking and Cloud Services	
COMP 233	Programming Concepts	

COURSE CODE	COURSE NAME	Delivered by another department/program
COMP 234	Data Management Systems	
COMP 235	Web Application Development 2	
COMP 266	Web Application Development 3	
COOP 150	Co-operative Education Work Term	
Semester 3		
ANTL 202	Machine Learning and Deep Learning	
CCMP 200	Cloud Computing	
COMP 214	Project Management	
COMP 237	Systems Analysis and Requirements Management	
COMP 258	Data Structures and Frameworks	
COMP 267	Enterprise Application Development 1	
COMP 268	Enterprise Application Development 2	
Semester 4		
ADMN 209	Organizational Change	
BCOM 121	Business Communications 2	
CLTR 200	Culture and Diversity	
COSP 200	Capstone: Initiating and Planning	
COSP 201	Capstone: Executing and Closing	
CWEB 201	Cross Platform Web Development	
FIN 204	Budget Management	

BCOM 120 - Business Communications 1

You will develop fundamental employability skills by studying the principles of communication. The course content includes developing effective writing skills. You will apply the principles and skills by writing letters and memorandums for routine and negative purposes. You will develop teamwork employability skills and examine ways to apply communication skills to team and cross-cultural situations.

Credit unit(s): 4.0
Pre Requisites: none
Co Requisites: none
Equivalent course(s): BCOM 104, TCOM 102, TCOM 180

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 importance of effective business communication.			
2. Demonstrate the value of Indigenous and intercultural awareness in communication.			
3. Examine the benefits of teamwork in the workplace.			
4. Compose grammatically correct sentences and paragraphs.			
5. Write routine business messages.			
6. Write negative business messages.			
7. Compose formal documents using word processing tools.			
8. Explain how to cultivate client relationships.			
9. Use electronic applications to manage business communication.			

CAPL 103 - Professionalism and Career Readiness

You will develop essential employability skills which will assist you in labour market research in the information technology sector, employment-related communications, and interviewing techniques. You will prepare documentation required for successful job application and employment. You will also study the role of the Canadian Information Processing Society (CIPS) and Information Systems Professionals (ISP) in providing ethical guidelines for personal conduct. This will include topics in diversity, inclusion and Indigenization strategy, truth and reconciliation. You will learn about the responsibilities of working with management information systems and an organization's data. You will also learn about the Cooperative Education and Work Integrated Learning (CEWIL) Canada accreditation and how it relates to the cooperative education process.

Credit unit(s): 3.0
Pre Requisites: none
Co Requisites: none
Equivalent course(s): COMP 249

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 role of Canadian Information Processing Society (CIPS) and Information Systems Professionals (ISP) in the Canadian IT industry.			
2. Explain CIPS code of ethics.			
3. Describe Cooperative Education and Work Integrated Learning (CEWIL) accreditation and the cooperative education process.			
4. Discuss diversity and inclusion in organizations.			
5. Discuss Indigenization in the workplace.			
6. Discuss storytelling as an Indigenous way of learning and knowing.			
7. Practice behavioural interview skills.			
8. Design job search documents for information technology jobs.			
9. Design a professional online media presence.			

COMP 116 – Introduction to Programming for Information Systems 1

You will learn introductory programming and design concepts using the Java language. Your studies will develop your logic and problem-solving skills using fundamental programming structures. You will use a modern integrated development environment to manage a Java project and use debugging tools to locate and correct errors in Java code.

Credit unit(s): 3.0
Pre Requisites: none
Co Requisites: 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 basic programming terminology and concepts.			
2. Use an integrated development environment to produce elementary Java programs.			
3. Apply coding standards.			
4. Use selection control structures to produce Java programs.			
5. Use iterative control structures to produce Java programs.			
6. Use debugging to analyze and rewrite incorrect code.			

COMP 117 – Introduction to Programming for Information Systems 2

You will learn intermediate programming and design concepts using the Java language. You will study methods to modularize algorithms and use arrays to manage data. You will be introduced to object-oriented programming and graphical design tools.

Credit unit(s): 3.0
Pre Requisites: none
Co Requisites: 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 modular and object-oriented programming terminology and concepts.			
2. Employ Unified Modeling Language (UML) diagrams for classes.			
3. Apply coding standards.			
4. Use modularized algorithms to produce Java programs.			
5. Use arrays to manage data in Java programs.			
6. Use object-oriented programming terminology and concepts.			
7. Write objects in Java.			

COMP 123 – Introduction to Business Computing

You will learn how to use computers to analyze business data and collaborate on documents. You will gain hands-on experience with advanced features of the Microsoft 365 suite of tools. You will also study best practices for collaborative document production, document management, and process automation.

Credit unit(s): 4.0
Pre Requisites: none
Co Requisites: none
Equivalent course(s): COAP 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. Use the command prompt to perform basic operating system commands.			
2. Use a command line interface to manage files and compare file versions.			
3. Use Word to develop an effective document template.			
4. Construct a report and manual using Word.			
5. Use Excel to create a spreadsheet to answer business questions.			
6. Use Microsoft Teams to effectively collaborate on a project.			
7. Use SharePoint lists and libraries to centralize and regulate access to information.			
8. Design customized SharePoint webpages.			
9. Create a Microsoft workflow to manage business processes.			
10. Create a simple business application using Microsoft Power Apps application.			

COMP 215 – Web Application Development 1

You will learn the fundamentals of Web design and application development. You will learn to create Web content that communicates effectively and is easy to maintain. Your studies will include learning HyperText Markup Language 5, JavaScript, JQuery, Asynchronous Java and eXtensible Markup Language (AJAX) and JavaScript sockets.

Credit unit(s): 4.0
Pre Requisites: none
Co Requisites: 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 technologies used in Web design and Web application development.			
2. Discuss the concepts of information architecture and site maintenance.			
3. Discuss Web usability and interaction design.			
4. Use HyperText Markup Language (HTML) to create Web content.			
5. Apply responsive design to the creation of web pages.			
6. Create Web pages that use Cascading Style Sheets 3 (CSS3) formatting.			
7. Create web pages that use JQuery.			
8. Create web pages that use persistent data.			
9. Create web pages that use Asynchronous Java and eXtensible Markup Language(AJAX).			
10. Create web pages that use sockets.			

STAT 120 – Business Statistics

You will gain knowledge of statistical concepts and techniques applicable to accounting and management. You will study descriptive statistics, measures of central tendency and dispersion, probability distributions, the Central Limit Theorem, and linear regression. This course is intended to build problem solving and critical thinking skills, and to demonstrate the importance of statistics in professional practices.

Credit unit(s): 4.0
Pre Requisites: none
Co Requisites: none
Equivalent course(s): ACP 374

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 statistical terminology and procedures.			
2. Apply statistical methods for organizing and presenting data.			
3. Calculate measures of central tendency.			
4. Calculate measures of dispersion.			
5. Examine basic probability.			
6. Examine probability distributions of random variables.			
7. Examine the normal probability distribution.			
8. Apply the Central Limit Theorem to business and financial problems.			
9. Apply confidence intervals to business and financial problems.			
10. Apply tests of hypothesis to business and financial problems.			
11. Analyze paired statistical data using simple linear regression.			

ANLT 100 – Introduction to Data Science

You will explore the role of a data scientist in the modern business, and survey popular data science programming languages and modules. You will learn how to leverage the popular data science language Python and learn to visualize real data and get acquainted with data structures such as the dictionary and the Pandas DataFrame. You will also cover key concepts such as Boolean logic, control flow, and loops.

Credit unit(s): 3.0
Pre Requisites: STAT 120
Co Requisites: 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 role of data science and the data scientist in the modern business.			
2. Identify the popular data science programming languages and modules.			
3. Demonstrate graphing using Matplotlib and Python.			
4. Demonstrate data collection from various sources such as comma separated values(CSVs), application programming interfaces (APIs), and websites.			
5. Demonstrate data manipulation using Python dictionaries, list comprehensions, lambda functions, and Pandas DataFrame.			
6. Use logic, control flow, and filtering in Python.			
7. Analyse data from different sources.			
8. Create clean and complete data sets for processing.			

BUS 104 – Introduction to Business

You will be introduced to fundamentals of business. You will study structures, activities and forces that impact businesses. The course will explore the importance of ethical business practices, corporate social responsibility, and economic diversity in the global economy. You will begin your exploration of the functional business areas of leadership, human resources, operations, marketing, accounting, finance, and entrepreneurship. The course will prepare you for further study in these areas and others. You will work on a business case and prepare a simple business plan.

Credit unit(s): 4.0
Pre Requisites: none
Co Requisites: 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 fundamentals of relational and non-relational data.			
2. Create Structured Query Language (SQL) statements to create and populate database tables.			
3. Create scripts to perform create, read, update, and delete (CRUD) operations on multiple database technologies.			
4. Design a normalized relational data model.			
5. Create stored procedures.			
6. Design extract, transform, load (ETL) operations to create a data mart.			
7. Manage ETL operations.			
8. Create effective reports.			

CNET 123 – Introduction to Networking and Cloud Services

You will learn the fundamentals of developing software applications with open-source tools and technologies. Your studies will provide you with a broad overview of application development and deployment environments, including the hardware, operating systems, and servers required to develop and deploy software applications. You will learn the basics of computer networking such as topologies, protocols and subnetting.

Credit unit(s): 4.0
Pre Requisites: none
Co Requisites: 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 common components on a network.			
2. Describe the history of networks.			
3. Describe common network topologies.			
4. Describe networking protocols.			
5. Perform an installation of a Linux operating system (OS).			
6. Manage a Linux OS.			
7. Create shell scripts.			
8. Write regular expressions.			
9. Manage a web server.			
10. Perform a configuration of a cloud database management system (DBMS).			
11. Create subnets on a defined network.			

COMP 233 – Programming Concepts

You will learn advanced topics in Java programming and Object-Oriented programming techniques. Your studies will include file manipulation, exception handling, graphical user interfaces, event handling, multi-threaded environments, and network programming. You will continue to study systems development, algorithm design and the process of managing a project using source control.

Credit unit(s): 4.0
Pre Requisites: COMP 117
Co Requisites: 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 source control and its uses.			
2. Use source control to manage code bases.			
3. Use Composition in Java.			
4. Use inheritance in Java.			
5. Use polymorphism in Java.			
6. Create stateful applications in Java.			
7. Create Java programs using multi-threading techniques in Java.			
8. Create a Java program that uses socket and network programming.			
9. Construct graphical user interfaces in Java.			
10. Create a multi-tiered application.			

COMP 234 – Data Management Systems

You will gain experience designing relational database systems. You will explore relational and non-relational database models. You will perform data analysis and processing on databases. Using industry standard tools, you will produce reports that combine relational and non-relational data.

Credit unit(s): 4.0
Pre Requisites: none
Co Requisites: 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 fundamentals of relational and non-relational data.			
2. Create Structured Query Language (SQL) statements to create and populate database tables.			
3. Create scripts to perform create, read, update, and delete (CRUD) operations on multiple database technologies.			
4. Design a normalized relational data model.			
5. Create stored procedures.			
6. Design extract, transform, load (ETL) operations to create a data mart.			
7. Manage ETL operations.			
8. Create effective reports.			

COMP 235 – Web Application Development 2

Your studies will provide hands-on experience developing .NET applications. The course content includes Web application topics such as Object-Oriented Programming (OOP), Model View Controller (MVC) and data access in the .NET platform. You will learn how to manage a software project in the .NET Integrated Development Environment (IDE) and use common libraries and design patterns for create .NET applications.

Credit unit(s): 3.0
Pre Requisites: COMP 215
Co Requisites: 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 Web application architecture.			
2. Apply Object-Oriented Programming (OOP) principles in C#.			
3. Analyze modern web frameworks used in the .NET stack.			
4. Create applications using the Model View Controller design pattern.			
5. Create applications that access data in the .NET platform.			

COMP 266 – Web Application Development 3

Your studies will provide hands-on experience developing Enterprise .NET applications. The course content includes Web application topics such as Asynchronous Java and eXtensible Markup Language (AJAX) and web service architecture in the .NET platform. You will learn how to create multi-tiered applications in the .NET platform and how these applications are deployed.

Credit unit(s): 3.0
Pre Requisites: none
Co Requisites: 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 n-tiered applications.			
2. Create n-tiered Web applications that use Asynchronous Java and eXtensible Markup Language (AJAX) for client-side development.			
3. Create applications that consume Web Services.			
4. Create a web application programming interface (API).			
5. Create unit tests for a .NET application.			
6. Manage the deployment of a .NET application.			

COOP 150 – Co-operative Education Work Term

Your co-operative education work term will provide an opportunity for you to integrate the formal knowledge and skills learned in the classroom with experiential learning from the workplace. You will have the opportunity to apply theoretical concepts to real work situations, work collaboratively in team work situations, experience the complexity of the roles and responsibilities within an organization, and apply personal employment skills.

Credit unit(s): 0.0
Pre Requisites: JOBR 120
Co Requisites: 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. Apply personal employment search skills.			
2. Demonstrate effective workplace communication skills.			
3. Demonstrate effective work habits.			
4. Demonstrate safe work practices.			
5. Demonstrate effective teamwork skills.			
6. Develop personal management skills.			
7. Identify roles and responsibilities of personnel in the workplace.			
8. Integrate theories and concepts learned in a workplace setting.			
9. Demonstrate essential employability skills.			
10. Reflect on job performance.			
11. Prepare a work term reflection paper.			

ANLT 202 – Machine Learning and Deep Learning

You will learn the big ideas in machine learning and deep learning: how to build and evaluate predictive models, how to tune them for optimal performance, how to preprocess data for more accurate results. You will implement common AI applications including image recognition, sentiment analysis, and product recommendations.

Credit unit(s): 4.0
Pre Requisites: ANLT 100
Co Requisites: 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 classification and regression problems.			
2. Illustrate classification problems using supervised learning techniques.			
3. Illustrate problems that have continuous solutions using regression.			
4. Apply tuning to machine learning models to evaluate and improve performance.			
5. Apply preprocessing on machine learning data to improve model performance.			
6. Apply pipelining on machine learning operations to automate machine learning models.			
7. Implement deep learning to support decision-making.			
8. Use a cloud computing service to deliver a machine learning/deep learning model.			

CCMP 200 – Cloud Computing

You will learn about the design and support of cloud services. Your studies will include learning about different cloud offerings and how cloud computing will influence networking. You will also learn how to plan for and monitor network performance and availability. You will gain hands-on experience with containerization, serverless computing, DevOps and cloud migration strategies.

Credit unit(s): 4.0
Pre Requisites: CNET 123
Co Requisites: 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 configuration of cloud compute resources.			
2. Demonstrate the configuration of a webserver on a cloud computing platform.			
3. Plan a cloud infrastructure.			
4. Plan a virtual private cloud.			
5. Create a containerized application using a DevOps approach.			
6. Create a serverless application using a DevOps approach.			
7. Plan a cloud migration.			

COMP 214 – Project Management

You will develop project management skills that will be applied to authentic projects. You will study industry standards and methodologies and learn about the resources available to project managers. You will learn tools and techniques which are useful to the project process groups and knowledge areas. You will study the theory that supports project management and how to apply it to real-world examples.

Credit unit(s): 4.0
Pre Requisites: COMP 123
Co Requisites: 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 project management concepts.			
2. Recognize the industry standards and methods of project management.			
3. Identify the people who have a stake in a project.			
4. Demonstrate effective team management.			
5. Apply tools used in project initiation.			
6. Apply planning techniques used in project management.			
7. Apply scheduling techniques used in project management.			
8. Design a risk management and response plan.			
9. Manage a project plan.			

COMP 237 – Systems Analysis and Requirements Management

You will study the methods, tools, and techniques a systems analyst uses to develop complex information systems. You will use software tools, systems analysis/design techniques to develop practical experience in planning of business information systems. You will gather requirements, perform the analysis, and design a small-automated system belonging to a real-world business/organization to gain direct experience of business process improvement.

Credit unit(s): 3.0
Pre Requisites: none
Co Requisites: 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 foundations for systems development.			
2. Apply project time management strategies and common tools.			
3. Demonstrate project scope management.			
4. Apply project cost management analysis.			
5. Apply project quality management techniques.			
6. Compare analysis tools.			
7. Diagram models of information systems.			
8. Diagram models of data storage.			
9. Create a system design document.			

COMP 258 – Data Structures and Frameworks

You will study the fundamentals of object-oriented software design data structures. You will study the creation and selection of common collections and their related algorithms. You will apply these concepts in project development involving a multiuser, networked application for data access.

Credit unit(s): 4.0
Pre Requisites: COMP 233
Co Requisites: 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 source control to manage multiple code bases.			
2. Review object-orientation.			
3. Construct general purpose data structures.			
4. Construct recursive methods.			
5. Apply searching and sorting algorithms.			
6. Use algorithm efficiency analysis.			
7. Implement common predefine collections.			
8. Use generic collections.			
9. Write generic methods.			
10. Manage collections of network collections.			
11. Manage concurrent transactions.			

COMP 267 – Enterprise Application Development 1

You will learn how to develop enterprise web applications. You will work with modern web frameworks such as Active Server Pages (ASP) Core, Angular, and React.

Credit unit(s): 3.0
Pre Requisites: COMP 266
Co Requisites: 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 enterprise web application architecture.			
2. Describe representational state transfer (REST) services.			
3. Use Angular to develop a front-end User Interface.			
4. Use Active Server Pages (ASP) core to create REST services.			

COMP 268 – Enterprise Application Development 2

You will learn industry best practices for development and deployment. You will break down development projects into manageable parts utilizing modern frameworks and design patterns. Using DevOps tools and practices, you will create an automated deployment plan.

Credit unit(s): 3.0
Pre Requisites: none
Co Requisites: 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 DevOps.			
2. Explain continuous delivery.			
3. Describe a development pipeline.			
4. Create an enterprise web application.			
5. Use the software lifecycle methodology.			
6. Plan the deployment of an enterprise web application.			
7. Manage a DevOps lifecycle.			

ADMN 209 – Organizational Change

You will develop strategies and processes related to creating and fostering an evolving workplace culture that supports innovation, change, quality and learning and results in harmony between the organization's needs and employee's expectations while remaining consistent with the organization's business plan in a competitive and changing environment. The course content emphasizes the importance of implementing change in the proper sequence of events and interactions.

Credit unit(s): 4.0
Pre Requisites: none
Co Requisites: none
Equivalent course(s): HR 236

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 your attitude and reaction towards change management.			
2. Describe how the six-images framework of change management applies to your approach to change.			
3. Explain how the depth of an organizational change can impact what changes in an organization.			
4. Construct an effective change vision.			
5. Describe the different approaches to managing change.			
6. Describe the difference between sustaining a change and initiative decay.			
7. Use varied approaches to manage resistance to change.			
8. Demonstrate how to be an effective change manager.			

BCOM 121 – Business Communication 2

You will develop effective business writing and technical communication skills. You will conduct collaborative research and create a technical report, using an appropriate formatting and citation style. In addition, you will deliver a live presentation of your final technical document.

Credit unit(s): 4.0
Pre Requisites: BCOM 120
Co Requisites: none
Equivalent course(s): COMM 149

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 technical, peer-reviewed research.			
2. Create documentation notes and bibliographies.			
3. Organize technical documents.			
4. Select appropriate graphics and illustrations for technical documents and presentations.			
5. Write a problem statement for a technical report.			
6. Create a user manual.			
7. Construct a formal technical report.			
8. Deliver a live presentation.			
9. Practice effective collaboration.			

CLTR 200 – Culture and Diversity

Your studies will focus on the many dimensions of culture and approaches to promoting inclusion and innovation. You will explore culture in Canadian society as it pertains to Indigenous and immigrant populations. You will also examine the correlation between culture and diversity.

Credit unit(s): 2.0
Pre Requisites: none
Co Requisites: 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 how cultural dimensions shape the diversity of Canada.			
2. Discuss the prominent dimensions of culture in Canadian society such as tradition, familial relations, and employment.			
3. Describe the interrelationships produced when the dimensions of various cultures interact.			
4. Describe the dimensions of culture as it relates to Indigenous and immigrant populations.			
5. Discuss the correlation between culture, diversity, and innovation.			

COSP 200 – Capstone: Initiating and Planning

You will demonstrate your skill in systems development and project management using real projects or contrived cases. You will complete the initiation and planning phases of a software project. You will then apply the activities of the system development cycle in software environment to start your capstone project. You will work in a team environment with the supervising faculty member serving as your consultant and evaluator.

Credit unit(s): 3.0
Pre Requisites: COMP 214, COMP 237, COSP 201(concurrent)
Co Requisites: 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 project initiation techniques.			
2. Use project planning techniques.			
3. Employ stand-up and status meetings.			
4. Use software modeling techniques.			
5. Plan project goals in a team setting.			
6. Manage a software project.			
7. Manage project initiating and planning documentation.			

COSP 201 – Capstone: Executing and Closing

You will demonstrate your skill in systems development and project management using real projects or contrived cases. You will complete the execution and closing phases of a software project. You will then present your project to a client and discuss the software and project management processes.

Credit unit(s): 4.0
Pre Requisites: COSP 200
Co Requisites: 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. Manage project documentation.			
2. Manage stand-up and status meetings.			
3. Manage project execution techniques and tools.			
4. Manage effective software construction techniques.			
5. Manage a software project.			
6. Manage a team to reach established goals.			
7. Prepare a final presentation for key stakeholders.			

CWEB 201 – Cross Platform Web Development

You will learn the fundamental concepts of cross platform web development using React and JavaScript eXtensible Markup Language (JSX). You will cover basic React concepts like communication with props, class-based components, lifecycle methods, user input handling and application development.

Credit unit(s): 4.0
Pre Requisites: COMP 268
Co Requisites: 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. se JavaScript eXtensible Markup Language (JSX) to create Hypertext Markup Language (HTML).			
2. Apply communication with Props.			
3. Use class-based components.			
4. Use stateful React components.			
5. Apply user input handling.			
6. Apply application programming interface (API) requests in React.			
7. Create a full stack React application.			

FIN 204 – Budget Management

You will learn about the fundamentals of financial mathematics and accounting. Your studies will include the budgeting process and cost benefit analysis. You will also learn how to use financial key performance indicators to understand the health of a project and business, as well as concepts core to investing.

Credit unit(s): 4.0
Pre Requisites: BUS 104
Co Requisites: 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 investing.			
2. Describe financial audits.			
3. Prepare an annual and project budget.			
4. Demonstrate the management of an active budget.			
5. Demonstrate the use of common key performance indicators for organizational activities.			
6. Evaluate a cost benefit analysis.			