Integrated Resource Management Diploma

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.

Teal Fisher, Program Head
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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		
CLTR 119	Indigenous Cultural Awareness	Arts & Sciences
COMP 174	Introduction to Excel 1	
EMPS 109	Work Preparation For Resource Managers	
ENVR 104	Introduction to Environmental Science and Technology	
EQPT 401	Small Motors	
FORE 102	Introduction to Forestry	
GPS 110	Basics of Global Positioning Systems (GPS)	
MAPS 101	Introduction to Mapping and Compassing	
RLAW 104	Introduction to Resource Legislation	
RSRC 104	Introduction to Ecology	
RSRC 102	Landscape, Soils and Ecoregions	
TAXO 100	Plant Taxonomy and Identification	
Semester 2		

COURSE CODE	COURSE NAME	Delivered by another department/program
CAMP 102	Winter Camp	
CAMP 305	Winter Aquatic Surveys	
COM 106	Technical Report Writing	
FEMT 301	Botany	
FIRE 101	Wildland Fire Fundamentals	
FISH 301	Aquatic Ecology	
FORE 400	Advanced Forestry	
SFTY 106	Wilderness Survival	
STAT 102	Statistics for Resource Managers	
WILD 101	Ecology, Biology and Management of Saskatchewan Wildlife	
WILD 301	Wildlife Anatomy and Systematics	
Semester 3		
WORK 403	Work Experience	
Semester 4		
CAMP 412	Aquatic Field Surveys	
CAMP 415	Natural Resources Field Technician-Forestry	
CAMP 416	Natural Resources Field Technician-Wildlife	
FISH 402	Aquatic Surveys	
FISH 403	Advanced Aquatic Surveys	
FORE 200	Forest Health	
FORE 405	Forest Access Techniques	
GIS 101	Geographic Information Systems 1	
WILD 404	Wildlife Management Field Techniques	
WILD 409	Wildlife Habitat Assessment	

COURSE CODE	COURSE NAME	Delivered by another department/program
Semester 5		
ENVR 401	Environmental Science and Technology 2	
FISH 404	Fisheries Management	
FISH 405	Current Topics in Fisheries	
HORT 400	Urban Forestry	
PARK 400	Park Programs	
PROJ 401	Applied Research in Resource Management	
RLAW 105	Indigenous Population Assessment and Regulation	
SYST 401	Remote Sensing 1	
WILD 405	Wildlife Population Assessment and Regulation	
WILD 406	Assessment of Wildlife Physiological Condition	

CLTR 119 - Indigenous Cultural Awareness

You will gain an understanding of the diversity and richness of First Nations and Métis cultures, histories and current issues.

Credit unit(s): 2.0
Prerequisites: none
Corequisites: none
Equivalent course(s): INDG 100, NAST 100

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. Recognize pre-contact Indigenous culture.			
2. Describe the history of Métis people.			
3. Examine the impacts of the Fur Trade Era on Indigenous people.			
4. Examine the history leading to the treaties.			
5. Examine the impacts of post-contact education.			
6. Examine cultural practices.			

COMP 174 – Introduction to Microsoft Excel 1

You will study the basic features of Excel. You will learn to create workbooks, format spreadsheet elements, manipulate multiple worksheets, create simple charts and use simple formulas and functions..

Credit unit(s): 1.0
Prerequisites: none
Corequisites: none
Equivalent course(s): COAP 117, COAP 138, COAP 197, COAP 344, COMP 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. Create a spreadsheet.			
2. Use basic functions and productivity tools.			
3. Work with multiple worksheets.			
4. Create basic charts.			

EMPS 109 - Work Preparation For Resource Managers

You will study how to conduct job searches. You will prepare a professional job application package and prepare for interviews in the natural resource field.

Credit unit(s): 1.0
Prerequisites: WORK 126
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 career opportunities in the natural resource management sector.			
2. Prepare customized resumes and cover letters for natural resource management positions.			
3. Conduct mock interviews with industry professionals.			

ENVR 104 - Introduction to Environmental Science and Technology

You will study evidence that suggests the Earth is faced with serious environmental challenges that indicate degradation arising from unsustainable population and economic growth. This course discusses the United Nations 2021-2030 Decade of Environmental Restoration. You will examine how climate change, loss of biodiversity, and the loss of ecosystem productivity are potential threats to human health and well-being. You will study key indicators of environmental health, assess challenges, and explore recovery of global and local systems.

Credit unit(s): 2.0
Prerequisites: ENVR 101
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 risks of increasing human populations to terrestrial, aquatic, and atmospheric well-being.			
2. Identify the drivers of sustainability versus environmental degradation.			
3. Discuss case histories of successful restoration and sustainable development initiatives.			
4. Recognize the inherent rights of First Nations and Métis People.			
5. Identify key stakeholders leading environmental change.			
6. Examine innovative solutions for improved environmental outcomes.			

EQPT 401 - Small Motors

You will be introduced to the operation, maintenance, and troubleshooting of gas engines. The mechanical cutting components and safety features of chainsaws will be demonstrated. You will safely operate a chainsaw in a field setting.

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. Identify common problems with gas engines.			
2. Identify the cutting mechanisms and safety features of a chainsaw.			
3. Operate a chainsaw in a safe manner.			

FORE 102 - Introduction to Forestry

You will describe forest practices that are common in Saskatchewan. You will describe forest harvesting methods as well as harvest and transportation systems. You will be introduced to the forest regions of Canada while discussing various silviculture practices.

Credit unit(s): 2.0
Prerequisites: none
Corequisites: none
Equivalent course(s): none

Use a checkmark (✓) to rate yourself as follows for each learning outcome **Competent:** I can apply this outcome without direction or supervision. **Learning:** I am still learning skills and knowledge to apply this outcome. **None:** I have no knowledge or experience related to this outcome.	**Competent**	**Learning**	**None**
1. Describe forest harvesting techniques.			
2. Discuss the terms commonly used in autecology of trees and shrubs.			
3. Describe the forest regions of Canada.			
4. Describe appropriate field note-taking procedures.			

GPS 110 - Basics of Global Positioning Systems (GPS)

You will be introduced to Global Positioning Systems (GPS) for resource managers. You will gain hands-on experience navigating using handheld GPS receivers. Your studies will include entering GPS data into various Geographic Information Systems (GIS) file formats. Using handheld and survey-grade receivers, you will practice advanced data collection techniques.

Credit unit(s): 4.0
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 basic theory of the Global Positioning System (GPS).			
2. Prepare a GPS mission plan.			
3. Prepare for GPS data collection.			
4. Manage collected data.			
5. Use a GPS receiver.			
6. Compare uncorrected and corrected GPS data.			
7. Demonstrate data import to and export from GPS.			

MAPS 101 - Introduction to Mapping and Compassing

Your studies will focus on mapping systems and compassing. You will interpret maps and develop skills in ground and map measurements.

Credit unit(s): 2.0
Prerequisites: none
Corequisites: none
Equivalent course(s): MAPS 340

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 a compass for orientation.			
2. Collect ground and map distances with azimuth direction.			
3. Employ mapping systems.			
4. Interpret map content.			

RLAW 104 - Introduction to Resource Legislation

You will describe the creation and construction of legislation, the Summary Offences Procedures Act and the provincial and federal resource protection statutes and regulations. As well, you will be provided an overview of the specific legislation, regulations and policies affecting forestry and natural resources management in Saskatchewan which will help you recognize the principles and theories of resource management and law enforcement.

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 creation of statutes and regulations.			
2. Describe the construction and arrangement of statutes and regulations.			
3. Describe the application of "The Summary Offences Procedure Act" to resource law.			
4. Interpret federal and provincial resource legislation.			
5. Evaluate case law applicable to resource law enforcement.			
6. Describe forest, natural resource and environmental legislation as it applies to forest activities.			

RSRC 102 - Landscape, Soils and Ecoregions

You will be introduced to processes and features that help shape and define the landscape of Saskatchewan. You will learn about fluvial and glacial geomorphologic processes and will be able to describe their associated landforms. This will provide you a foundation for the study of soils, parent material and corresponding vegetation. You will apply your knowledge of geology, soils and vegetation within the integrated context of ecological land classification.

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 geological processes, materials and landforms in Saskatchewan.			
2. Describe geological origins of non-renewable resources in Saskatchewan.			
3. Describe soil, its components and various uses and approaches for studying.			
4. Assess soil architecture and its physical properties.			
5. Discuss the soil forming factors and their relationship to soil.			
6. Determine the soil attributes that produce good plant growth.			
7. Apply the Ecological Classification System.			
8. Prescribe soil conservation approaches to various forestry and farming practices.			

RSRC 104 - Introduction to Ecology

You will discover the fundamental patterns of spatial and temporal variation in the biosphere. You will study the interconnectedness of biotic and abiotic elements in global systems. You will gain knowledge of ecology, population growth, land classification, and the influence of humans on other ecological components.

Credit unit(s): 1.0
Prerequisites: none
Corequisites: none
Equivalent course(s): RSRC 101

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 fundamental patterns of biological diversity.			
2. Describe mechanisms that support biological diversity.			
3. Discuss the impact of humans on ecological systems.			

TAXO 100 - Plant Taxonomy and Identification

You will learn how to identify specific terrestrial and aquatic vegetation by field and site characteristics. The identification will consist of the binomial classification based upon phylogenetic and morphological characteristics. The course includes classifying rare and invasive species and understanding the significance of these species in Saskatchewan. You will be introduced to the Canadian Wetland Classification system as it pertains to identification of wetland vegetation. You will learn the significance of herbaria and conservation data centres and how to access their resources for the purpose of plant identification and species ranking.

Credit unit(s): 4.0
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 plant vegetative and reproductive morphology with appropriate terminology.			
2. Apply plant terminology.			
3. Explain the history and application of binomial nomenclature in respect to plants.			
4. Identify specific terrestrial and aquatic vegetation and their associated site characteristics.			
5. Identify the characteristics of ten major plant families in Saskatchewan.			
6. Apply plant identification skills to wetland classification system.			
7. Identify specific invasive and noxious species.			
8. Explain the importance of herbaria and conservation data centres.			
9. Explain the relevance of rare plant species and rare plant survey techniques.			

CAMP 102 - Winter Camp

You will participate in a winter camp and apply the principles of snowmobile safety, winter emergency survival techniques and ice-rescue techniques. You will increase your competency for working under arduous conditions while exploring winter ecology in a boreal setting.

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. Employ safe responsible use of snowmobiles.			
2. Apply Ice rescue techniques.			
3. Apply winter survival techniques.			

CAMP 305 - Winter Aquatic Surveys

You will participate in a winter camp and apply the principles of winter water quality and under-ice fish netting techniques. You will increase your competency for working under arduous conditions while exploring winter ecology in a boreal setting.

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. Conduct under-ice fish netting.			
2. Perform winter water quality sampling.			
3. Practice ethical treatment of captured fish.			

COM 106 - Technical Report Writing

You will be introduced to scientific research and accessing and incorporating scientific literature. These elements are combined in a research project that will provide you with the opportunity to assemble, synthesize and report your research findings in a technical report format.

Credit unit(s): 2.0
Prerequisites: none
Corequisites: none
Equivalent course(s): none

Use a checkmark (✓) to rate yourself as follows for each learning outcome **Competent:** I can apply this outcome without direction or supervision. **Learning:** I am still learning skills and knowledge to apply this outcome. **None:** I have no knowledge or experience related to this outcome.	**Competent**	**Learning**	**None**
1. Describe the scientific method and types of scientific investigations.			
2. Use reference material in scientific writing.			
3. Conduct scientific research.			
4. Prepare figures and tables.			
5. Write technical reports.			

FEMT 301 - Botany

You will describe the processes of plant life from the cellular level, growth and reproduction, photosynthesis, respiration, fluid translocation and germination. You will identify a plant's contribution to society and the ecosystem with emphasis on forestry plants. You will also identify some physical properties of wood.

Credit unit(s): 3.0
Prerequisites: none
Corequisites: none
Equivalent course(s): FEMT 410, FORE 342

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 botany and its impact on natural resources.			
2. Categorize the growth and development of plants.			
3. Describe the reproduction of plants.			
4. Describe seed viability and the six stages in the life process of a seed.			
5. Apply the terms commonly used in discussing silvics to plant physiology.			
6. Describe tree physiology in terms of growth, form, needs and allocation of resources.			
7. Describe wood utilization from various tree components and from various tree species.			

FIRE 101 - Wildland Fire Fundamentals

You will apply wildland fire management fundamentals including fire detection, assessment and reporting, fire safety and organization, fire weather, fire behaviour as well as response planning systems. You will participate in field exercises in fire pump set-up, hose handling, sprinkler system set-up, two-way radio communication and the use of hand tools and fire foam. A simulation exercise in basic fire tactics is integral to the course.

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 effects of fuels, weather, and topography on basic fire behaviour.			
2. Describe fire line safety.			
3. Demonstrate the use of the Canadian forest fire danger rating system.			
4. Describe the incident command system and the Saskatchewan Wildland Fire Suppression preparedness system.			
5. Demonstrate radio communications procedures and the use of hand tools and fire pumps.			
6. Describe reporting of wildland fires.			
7. Apply wildland fire suppression methods.			
8. Describe the use of heavy equipment, sprinkler system setup, the use of fire foam and aircraft use in wildland fire suppression.			
9. Describe the difference between controlled fires and prescribed burns and the situations when both are used.			

FISH 301 - Aquatic Ecology

You will study freshwater aquatic ecology. You will safely sample and interpret water quality of nearby waterbodies. You will become familiar with fish anatomy and learn how to identify fish species and aquatic invertebrates.

Credit unit(s): 3.0
Prerequisites: CAMP 305
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 major physiological systems of fish.			
2. Identify the anatomical structures of fish and their functions.			
3. Describe the elements of aquatic ecology.			
4. Identify fish of Saskatchewan.			
5. Interpret water quality.			
6. Identify freshwater plankton and bottom fauna.			
7. Describe principles of quality assurance and quality control to aquatic surveys.			
8. Demonstrate freshwater fish identification procedures.			

FORE 400 - Advanced Forestry

You will describe the need for forest measurements and understand the tools commonly employed in forest measurements. Forest sampling techniques will be used to obtain wood volumes for trees, wood piles, unit areas, and the stand level.

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 practice and importance of tree measurements in natural resources.			
2. Describe the tools commonly employed in forest measurements.			
3. Describe the usage of these tools in forestry and natural resources settings.			
4. Perform forest measurements at the tree, plot and stand level.			
5. Identify wood volume calculations at the bolt, pile, tree, plot, unit area and stand level.			
6. Describe forest sampling techniques.			

SFTY 106 - Wilderness Survival

You will learn the basic survival techniques involving clothing, shelter building, fire, signaling and collecting food and water. You will also learn how to deal with wildlife during dangerous encounters.

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 wilderness survival planning and techniques.			
2. Describe equipment and clothing requirements.			
3. Describe awareness when dealing with dangerous wildlife encounters.			

STAT 102 – Stats for Resource Managers

You will be introduced to the principles of data collection and analysis. You will study the role of bias and objective interpretation in the application of statistics. You will be introduced to study design and statistical software in resource management.

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. Calculate measures of central tendency.			
2. Calculate measures of dispersion.			
3. Construct confidence intervals.			
4. Construct graphs, tables, and figures to support statistical analyses.			
5. Use a t-test, paired t-test, and ANOVA to compare samples.			
6. Use Chi-Square tests for non-parametric applications.			
7. Employ least square regression models for bivariate statistics.			
8. Complete a statistical review and interpretation of a natural resource management case history.			

WILD 101 – Ecology, Biology and Management of Saskatchewan Wildlife

You will examine how wildlife populations relate to their environments. You will learn the life history and biology of Saskatchewan wildlife. Students will examine at-risk species in Saskatchewan and review environmental laws governing at-risk species. You will learn wildlife management challenges, strategies, and goals for Saskatchewan wildlife populations.

Credit unit(s): 2.0
Prerequisites: none
Corequisites: none
Equivalent course(s): none

Use a checkmark (✓) to rate yourself as follows for each learning outcome **Competent:** I can apply this outcome without direction or supervision. **Learning:** I am still learning skills and knowledge to apply this outcome. **None:** I have no knowledge or experience related to this outcome.	**Competent**	**Learning**	**None**
1. Describe the principles of historic and contemporary wildlife management programs in Saskatchewan.			
2. Discuss the Saskatchewan 2018-2028 Game Management Plan.			
3. Discuss Saskatchewan 2018-2028 Game Allocation Framework.			
4. Explain First Nation/Métis objectives for Game Management.			
5. Describe the management of big game, game birds, migratory birds and fur bearing mammals.			
6. Describe the management of threatened and endangered wildlife in Saskatchewan.			

WILD 301 - Wildlife Anatomy and Systematics

You will study how to identify over 300 vertebrate species of birds, mammals, reptiles, and amphibians. You will examine the anatomy of birds and mammals. You will conduct basic necropsy and sample processing for animal protocols.

Credit unit(s): 4.0
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 amphibian and reptile external anatomy.			
2. Describe bird external anatomy.			
3. Describe mammal anatomical structures and their functions.			
4. Describe necropsy procedures.			
5. Identify the amphibians and reptiles of Saskatchewan.			
6. Identify the birds of Saskatchewan.			
7. Identify the mammals of Saskatchewan.			

WORK 403 - Work Experience

You will participate in and report on a six-week work experience. You will apply and demonstrate your knowledge and skills in the field of natural resource management.

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. Select a field placement.			
2. Demonstrate effective interpersonal skills.			
3. Display professional conduct on and off duty.			
4. Demonstrate safe work practices.			
5. Prepare reports on field placement.			

CAMP 412 - Aquatic Field Surveys

Your training will include an engagement in aquatic resource management field techniques. You will work directly with a variety of aquatic organisms, learn and complete survey protocols, and collect field data that will be used in your second year courses. You will learn and practice the ethical treatment and proper handling of fish.

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 selection and use of fish and aquatic invertebrate capture equipment.			
2. Demonstrate trailer towing and backing procedures.			
3. Perform lake and stream limnological and biological surveys.			
4. Demonstrate the ethical collection and handling of fish.			
5. Collect aquatic data using digital data collection applications.			

CAMP 415 - Natural Resources Field Technician-Forestry

You will immerse yourself in forestry management field techniques. You will work through a variety of scenarios to develop tools and techniques for managing forestry. You will develop field skills suitable for resource technicians including how to manage forestry projects.

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 a timber cruise and Permanent Ecological Sample Plot (PESP).			
2. Demonstrate the application of stand-type maps.			

CAMP 416 - Natural Resources Field Technician-Wildlife

You will immerse yourself in wildlife management field techniques. You will work through a variety of scenarios to develop tools and techniques for dealing with wildlife. You will develop field skills suitable for resource technicians including how to manage public relations when working with problem wildlife.

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. Evaluate habitat.			
2. Apply wildlife damage controls.			
3. Assess wildlife populations.			
4. Record field data with appropriate technology.			
5. Demonstrate outdoor field techniques.			

FISH 402 - Aquatic Surveys

You will acquire the knowledge and skills needed to survey and summarize the physical, chemical and biological components of lakes and streams.

Credit unit(s): 3.0
Prerequisites: none
Corequisites: FISH 403
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 fish habitat mapping.			
2. Analyze stream survey physio-chemical and biological data.			
3. Analyze lake survey physio-chemical and biological data.			
4. Prepare a bathymetric map.			
5. Interpret fish ageing structures.			
6. Analyze fish catch data.			

FISH 403 - Advanced Aquatic Surveys

You will be introduced to advanced topics in aquatic sampling and interpretation. You will acquire the knowledge and skills needed for biomonitoring sampling, electrofishing, fish population surveys, and creel surveys. You will also be introduced to fish stress and advanced fish handling procedures such as tagging and surgery.

Credit unit(s): 3.0
Prerequisites: none
Corequisites: FISH 402
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 principles and techniques of electrofishing.			
2. Demonstrate sampling procedures for benthic, plankton, and ichthyoplankton assessment.			
3. Interpret benthic biomonitoring and impact assessment data.			
4. Describe signs of stress and the use of anesthetics when handling fish.			
5. Describe techniques for marking and tagging fish and related procedures.			
6. Describe principles of hydroacoustic sampling.			
7. Describe appropriate methods for surveying fisheries resource users			

FORE 200 - Forest Health

You will study forest health concerns in Saskatchewan. These studies will include common forest pests and diseases and the role of fire in forest ecology. You will examine the effects of climate, fire, and pollution on forest health.

Credit unit(s): 3.0
Prerequisites: FEMT 301
Corequisites: FORE 405
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 Forest Insect pests and tree diseases in Saskatchewan.			
2. Collect forest insect and tree diseases in Saskatchewan.			
3. Describe the interactions between insects and their environment.			
4. Describe Integrated Pest Management (IPM).			
5. Describe fire disturbance dynamics.			
6. Describe fire ecology principles.			
7. Assess the ecological role of wildland fires.			

FORE 405 - Forest Access Techniques

You will study how to identify forest access concerns. You will gain knowledge of tree volume allotment and tree volume calculations for harvest and road location. You will produce a harvest schedule complete with its corresponding access requirements while adhering to guidelines.

Credit unit(s): 3.0
Prerequisites: FORE 400
Corequisites: FORE 200
Equivalent course(s): FORE 470

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 the various components of forest access.			
2. Describe techniques for producing a road profile.			
3. Discuss various features concerning culvert installation.			
4. Discuss elements used in determining Annual Allowable Cut (AAC) and projected harvest volumes.			
5. Interpret an area of interest and collect data for road planning.			
6. Calculate harvest volume available for a given area using an assortment of means.			
7. Plan road locations for the proposed harvest schedule.			
8. Develop a road profile for interpretation purposes.			
9. Develop a map and tables identifying proposed harvest volumes, road location, reclamation and silviculture activities.			

GIS 101 - Geographic Information Systems 1

You will achieve a basic understanding of Geographic Information Systems (GIS) concepts and principles. You will study how to display spatial data, work with tables and create a map layout using GIS software.

Credit unit(s): 2.0
Prerequisites: none
Corequisites: none
Equivalent course(s): GIS 350, GIS 440

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 nature and uses of Geographic Information Systems (GIS).			
2. Perform basic spatial analysis.			
3. Perform basic spatial analysis using spatial data.			
4. Manage attribute tables.			
5. Manage Global Positioning System data in a Geographic Information System (GIS).			
6. Integrate Geographic Information Systems (GIS) skills in a GIS project.			

WILD 404 - Wildlife Management Field Techniques

You will study fundamental field skills in wildlife damage prevention, data and sample collection, and age/sex determination. You will also study how to ethically capture and handle wildlife and learn about wildlife diseases in Saskatchewan.

Credit unit(s): 4.0
Prerequisites: CAMP 416
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. Collect wildlife species.			
2. Preserve wildlife specimens.			
3. Describe the ethical capture and handling of wildlife.			
4. Describe the ethical marking of wildlife.			
5. Determine age of wildlife.			
6. Determine gender of wildlife.			
7. Recognize wildlife diseases and abnormal behaviours.			
8. Determine the species involved in wildlife damage.			
9. Discuss prevention and control techniques for wildlife damage.			
10. Describe Canadian Council for Animal Care (CCAC) guidelines for ethical animal care and handling.			

WILD 409 - Wildlife Habitat Assessment

You will study techniques to assess habitat quality to determine its capability for supporting wildlife. You will learn the fundamentals of and current guidelines for the protection of wildlife and their habitats within a variety of human resource developments.

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 processes of habitat evaluation.			
2. Evaluate wildlife habitat in the field.			
3. Describe habitat management.			
4. Describe habitat relationships of wildlife.			
5. Describe guidelines for the protection of wildlife and habitat in forestry, oil & gas and mining operations.			
6. Describe the measures to mitigate environmental impacts.			
7. Identify the designations of protected wildlife lands in Saskatchewan.			

ENVR 401 - Environmental Science and Technology 2

You will study pollution prevention and mitigation technology. You will also develop environmental management strategies for agriculture, oilfield, mining and pulp and paper operations.

Credit unit(s): 3.0
Prerequisites: none
Corequisites: none
Equivalent course(s): ENVR 441

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 principles behind pollution prevention through application of waste minimization and recycling.			
2. Describe technologies to mitigate pollution at source, pathway, and receptor.			
3. Describe the principles behind Environmental Management Systems (EMS) (International Organization for Standardization (ISO) 14000, Responsible Care).			
4. Assess management strategies for production and release of industrial waste.			
5. Describe government databases documenting pollutant releases and contaminated sites.			
6. Assess management strategies for storage and/or disposal of municipal, industrial, and hazardous waste.			
7. Assess management strategies for hazardous materials storage, municipal, industrial, and hazardous waste disposal.			

FISH 404 - Fisheries Management

You will be introduced to legislation and fisheries management principles as they apply to protecting fish habitat and fisheries resource utilization. You will become familiar with fish parasites and disease, the steps involved in conducting fish kill investigations, aquatic invasive species, and enforcement.

Credit unit(s): 3.0
Prerequisites: none
Corequisites: none
Equivalent course(s): FISH 446

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 sources of aquatic habitat impact.			
2. Describe legislation and procedures intended to protect aquatic habitat.			
3. Describe freshwater aquatic habitat protection guidelines and habitat improvement options.			
4. Describe sport and commercial fishery regulations and management.			
5. Identify common fish diseases and parasites.			
6. Identify risks associated with aquatic invasive species.			
7. Assess potential causes of fish kills and fish habitat conditions.			
8. Discuss human dimensions in fisheries management.			
9. Identify fish from fillets and fish remains.			

FISH 405 - Current Topics in Fisheries

You will study biological components of fisheries management and critique current issues in fish and fish habitat management.

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. Identify current topics in fisheries management.			
2. Identify and consider ecological parameters used in fisheries management.			
3. Critique current issues in fisheries management.			

HORT 400 - Urban Forestry

You will be introduced to horticultural practices. You will learn how to prune and landscape with trees and shrubs in an urban environment. You will identify exotic plant species and study how to establish and maintain them within our hardiness zone. You will assess landscapes and recommend horticultural practices. You will develop an understanding of urban forestry equipment.

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 horticulture within an urban environment.			
2. Identify exotic trees and shrubs.			
3. Identify vegetation establishment procedures.			
4. Discuss vegetation maintenance procedures within an urban environment.			
5. Discuss equipment used in urban forestry.			
6. Prescribe horticulture practices within an urban setting.			

PARK 400 - Park Programs

Your studies will focus on the principles and application of environmental interpretation and visitor service programs. You will also learn about procedures for trail development, managing visitors and conflict. The course includes an introduction to emergency troubleshooting, fire hazard and risk management.

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. Identify various trails and multiple user conflict.			
2. Describe the principles of environmental interpretation.			
3. Develop a program plan using a holistic approach.			
4. Describe visitor service programs.			
5. Describe hazards in recreation areas and Wildfire Urban Interface.			
6. Describe emergency maintenance troubleshooting and risk assessment procedures.			
7. Describe the elements of effective wildfire prevention programs.			

PROJ 401 – Applied Research in Resource Management

You will conduct a research project. You will integrate the skills, training, and knowledge you acquired throughout the program to design, conduct, analyze and present the results of a resource management project.

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. Identify an applied research project of interest to resource management agencies.			
2. Submit a project proposal.			
3. Conduct a literature search.			
4. Perform the collection and analysis of data.			
5. Prepare a written technical report outlining the principal findings of your research project.			

RLAW 105 - Indigenous Resource Rights

You will describe the treaties, Natural Resources Transfer Agreement, Constitution Act 1982, and case law with respect to the special rights of Indigenous people to the resources.

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. Identify the Indigenous peoples of Canada.			
2. Describe the historical origin of Indigenous resource rights in Saskatchewan.			
3. Evaluate the constitutional evolution of Status Indian resource rights.			
4. Evaluate the constitutional evolution of Métis resource rights.			
5. Apply the Status Indian resource use rights in Saskatchewan.			
6. Apply the Métis resource use rights in Saskatchewan.			
7. Describe the duty to consult and accommodate Indigenous peoples with respect to the use of resources in Saskatchewan.			

SYST 401 - Remote Sensing 1

You will be introduced to satellite imagery. Your studies will include remote interpretation techniques for natural resource management applications.

Credit unit(s): 2.0
Prerequisites: none
Corequisites: none
Equivalent course(s): SYST 340

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 role of both electromagnetic radiation and the electromagnetic spectrum in remote sensing.			
2. Explain how remotely sensed imagery is obtained through sensor systems.			
3. Describe the characteristics of a remotely sensed image.			
4. Describe the uses of remote sensing in resource management.			
5. Discuss the use of Light Detection and Ranging (LIDaR).			
6. Order remote sensing imagery.			

WILD 405 - Wildlife Population Assessment and Regulation

You will assess wildlife populations using a variety of survey techniques that wildlife managers use to quantify the size, distribution, and density of wildlife populations. You will also examine the tools managers use to regulate the sustainable harvest of wildlife.

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 wildlife survey techniques and protocols.			
2. Describe techniques to monitor wildlife movements.			
3. Design a wildlife survey.			
4. Conduct wildlife surveys.			
5. Interpret wildlife movements and activities.			
6. Describe wildlife research permitting and reporting requirements in Saskatchewan.			
7. Describe the Management of Game Species harvests in Saskatchewan.			

WILD 406 – Assessment of Wildlife Physiological Condition

You will use physiological parameters to assess the health and reproductive status of wildlife populations. You will examine the principles of wildlife nutrition and learn methods to assess the reproductive and nutritional status of wildlife.

Credit unit(s): 2.0
Prerequisites: none
Corequisites: none
Equivalent course(s): none

Use a checkmark (✓) to rate yourself as follows for each learning outcome **Competent:** I can apply this outcome without direction or supervision. **Learning:** I am still learning skills and knowledge to apply this outcome. **None:** I have no knowledge or experience related to this outcome.	**Competent**	**Learning**	**None**
1. Describe wildlife food habits.			
2. Analyze wildlife food habits.			
3. Describe wildlife physical and reproductive condition.			
4. Assess wildlife physical and reproductive condition.			