Department of Arts and Sciences (A&S) Courses:
Communications
Social Sciences
Mathematics
Sciences

PLAR Candidate Guide

Prior Learning Assessment and Recognition (PLAR)
How to navigate this document

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Appendices

Appendix A: Employment validation letter: Template
PLAR information for Arts & Sciences courses

This section contains the following detailed information about PLAR for the A & S courses:

(a) Arts & Sciences courses available for PLAR,
(b) Dates when PLAR assessment is available for A & S courses,
(c) Eligibility criteria for A & S PLAR,
(d) PLAR fees for A & S courses,
(e) Directions for PLAR consultation and registration for A & S courses, and
(f) Contact information for A & S PLAR consultation.

Arts and Sciences courses available for PLAR

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<td>THER 182</td>
<td>Thermodynamics</td>
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### PLAR options and eligibility criteria

**Options:** The only option available for A&S is single course PLAR. There are no block PLAR assessments for a group of courses.

**Eligibility Criteria:** Consult with the program head of your program to discuss eligibility to PLAR courses. For some programs, you need to apply and be admitted to the program before you can register for any courses in that program, including A&S courses. Some courses have pre-requisite courses that must be completed first.
Dates when A&S PLAR assessment is available

PLAR challenges are currently being offered as requested. The best time to apply for PLAR is before your program or the course you want to PLAR starts. Instructors may not be available to conduct PLAR assessment during the months of July and August. All PLAR assessments must be completed by June 15 of each year.

Fees for PLAR Challenges

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.

As of July 1, 2019, the PLAR fee is 75% of the tuition you would otherwise pay to take a course, which varies depending if you are a full-time, part-time, or international student. Confirm fees with the PLAR contact person. Fees may be waived or reduced by the Academic Chair of a program for special circumstances.

Directions to consult and register for A&S PLAR

1. **Review**: Thoroughly review the PLAR process and FAQs on our website and the content of this guide. Both sources of information will help you navigate the PLAR process.

2. **Self-rate**: Complete the self-rating checklists in the next section to estimate your level of competence for the learning outcomes of each course.

3. **Print [or convert to electronic file]**: If PLAR for one or more courses appears to be an option for you, print or save the PLAR Application Form, with your personal information filled in. Also print or save the self-rating checklists for courses you want to PLAR.

4. **Consult with your Program Head**: Take or send your PLAR Application Form to your program head to discuss your PLAR plans. Your program head must sign the PLAR Application Form to confirm the consultation.

5. **Contact**: Call or email the A&S PLAR contact person listed on the course outline for the A&S course(s) you want to PLAR.

6. **Prepare**: Ask the A&S PLAR contact person what to bring with you or submit prior to a meeting. The following items are commonly requested:
   - A printed PLAR Application Form with your personal information filled in, and
   - Completed self-rating checklists for each course you may want to PLAR.
**PLAR contact person for A&S courses**

Complete the following steps **before** you contact the A&S PLAR contact person at your campus:

- reviewed (a) general PLAR information online and (b) A&S-specific PLAR information in this guide;
- self-rated your competence level for the learning outcomes of each course you may want to PLAR (see the next page of this guide); and,
- consulted with your program head so they are aware of your intention to PLAR one or more A&S courses.

**Moose Jaw Campus** .......... Blaine Langman, A&S Department Head
   Blaine.Langman@saskpolytech.ca
   306-691-8266

**Prince Albert Campus** ...... Brenda Sundby, A&S Department Head
   Brenda.Sundby@saskpolytech.ca
   306-765-1734

**Regina Campus** ............... Devin Martyniuk, A&S Department Head
   Devin.Martyniuk@saskpolytech.ca
   306-659-4395

**Saskatoon Campus** ............ Stephanie Morrison, A&S Department Head
   Stephanie.Morrison@saskpolytech.ca
   306-775-7675

**Course outlines for A & S courses**

This section provides an outline for each Arts and Sciences course. Course learning outcomes describe the knowledge and skills that are assessed for PLAR credit.

Use the checklist provided for each course to self-rate your competence level for each learning outcome. Your self-ratings will help you estimate your readiness for PLAR.

**Steps to complete self-rating checklists**

1. Familiarize yourself with the three levels of competence listed below:

   - **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.

2. Review the learning outcomes listed on course outlines in this guide for each course.

3. Rate your level of competence for each learning outcome by placing a checkmark in the appropriate rating column.
4. Email completed checklists to the A&S PLAR contact person to be reviewed for an initial consultation.
Self-audit guide(s)

ANAT 166 – Anatomy and Physiology of the Head and Neck

You will study the superficial anatomy, bones and musculature of the head and neck. You will discuss the blood vessels, lymphatic structures and nerves which supply the head and neck including the maxillary and mandibular dentition.

Credit unit(s): 2.0
Prerequisites: BIOL 100, BIOL 101
Equivalent course(s): none

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

1. Describe the superficial regions of the head and neck.
2. Describe the structures, locations and functions of the tissues of the oral cavity.
3. Describe the skull, mandible and temporomandibular joint and their anatomical features.
4. Describe the location, action and innervation of the muscles of the head and neck.
5. Describe the arterial and venous circulation of the head and neck.
6. Describe the lymph nodes of the head and neck.
7. Describe the functions of the immune system.
8. Describe the innervation of the head and neck.

PLAR consultation

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

PLAR assessment

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and have received specific directions.

Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
ANAT 167 – Anatomy and Physiology 1

You will study the human body and how it functions to maintain homeostasis. Your studies will include the chemical, cellular and tissue levels of organization. You will focus on the integumentary, cardiovascular, respiratory, nervous, endocrine, and lymphatic systems.

Credit unit(s): 5.0  
Prerequisites: none  
Equivalent course(s): ANAT 167CE

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<thead>
<tr>
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<td><strong>None:</strong></td>
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</table>

1. Describe the organization of the human body and homeostatic regulation.
2. Describe the chemical level of organization of the human body.
3. Describe the anatomy and physiology of human cells.
4. Describe the structures and functions of human tissues.
5. Describe the structures and functions of the integumentary system.
6. Describe the components of blood and their functions in the maintenance of homeostasis.
7. Describe the structures and functions of the cardiovascular system including the heart and major blood vessels.
8. Describe the structures and functions of the respiratory system.
9. Describe the structures and functions of neural tissue.
10. Describe the structures and functions of the nervous system.
11. Describe the structures and functions of the autonomic nervous system.
12. Describe the structures and functions of the endocrine system.
13. Describe the structures and functions of the lymphatic system.

PLAR consultation

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

PLAR assessment

Prepare for assessment after you have been approved and registered for PLAR and received specific directions. PLAR assessment may include one or more of the following methods:

1. **Case study exam:** Write a case study oriented exam with application of Saskatchewan Treatment Protocols.

Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
ANAT 267 – Anatomy and Physiology 2

You will continue to study the human body, focusing on how its structures function to maintain homeostasis. You focus on the structures and functions of the urinary, sensory, digestive, skeletal, muscular, and reproductive systems.

Credit unit(s): 4.0  
Prerequisites: ANAT 167  
Equivalent course(s): ANAT 267CE

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</table>

1. Describe the structures and functions of the urinary system.
2. Describe fluid, electrolyte and acid base balance.
3. Describe the structures and functions of the special and somatic senses.
4. Describe the structures and functions of the digestive system.
5. Describe the structures and functions of the skeletal system.
6. Describe the structures and functions of the muscular system.
7. Describe the structures and functions of the reproductive system.

PLAR consultation

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

PLAR assessment

Prepare for assessment after you have been approved and registered for PLAR and received specific directions. PLAR assessment may include one or more of the following methods:

1. Case study exam: Write a case study oriented exam with application of Saskatchewan Treatment Protocols.

Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
ANLT 300 – Applied Critical Thinking and Logic

You will learn basic concepts and methods of critical thinking and logic. You will apply these concepts and methods to analyze and evaluate arguments regarding projects or problems from mathematics, science and construction science management.

Credit unit(s): 3.0
Prerequisites: none
Equivalent course(s): none

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<thead>
<tr>
<th>ANLT 300 – Applied Critical Thinking and Logic</th>
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<td><strong>None:</strong></td>
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1. Examine the principles of critical thinking and essential characteristics of an argument.
2. Analyze the structure of an argument.
3. Evaluate an argument using concepts of categorical and propositional logic.
4. Examine elements of critical thinking and logic applied to projects or problems in construction science management.
5. Apply elements of critical thinking and logic to projects or problems in construction science management.
6. Evaluate projects or problems in construction science management using elements of critical thinking and logic.

PLAR consultation

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

PLAR assessment

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and have received specific directions.

Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
APHY 160 – Essentials of Human Anatomy and Physiology

You will develop a basic understanding of the anatomy and physiology of the human body. You will discuss the concept of homeostasis. You will acquire knowledge of cells, tissues, organs and all the organ systems of the human body.

**Credit unit(s):** 3.0  
**Co Requisites:** MTER 100  
**Equivalent course(s):** APHY 189

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<tr>
<th><strong>APHY 160 – Essentials of Human Anatomy and Physiology</strong></th>
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</table>

1. Describe the organization of the human body and homeostatic regulation.
2. Describe the structures and functions of human cells.
3. Discuss the characteristics and functions of human tissues.
4. Describe the structures and functions of the integumentary system.
5. Describe the structures and functions of the skeletal system.
6. Describe the structures and functions of the muscular system.
7. Describe the structures and functions of the nervous system.
8. Discuss the special and general senses.
9. Describe the structures and functions of the endocrine system.
10. Describe the components of blood and their functions in the maintenance of homeostasis.
11. Describe the structures and functions of the cardiovascular system.
12. Discuss the structures and functions of the lymphatic system.
13. Describe the structures and functions of the respiratory system.
14. Describe the structures and functions of the digestive system.
15. Describe the structures and functions of the urinary system.
16. Discuss the structures and functions of the reproductive system.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the **A&S Department Head** at your nearest Sask Polytech campus.

**PLAR assessment**

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S **PLAR contact person**.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the **Sask Polytech Bookstore** is optional.
APHY 162 – Anatomy and Physiology 1

You will develop an understanding of the human body, its structures and how it functions to maintain homeostasis. You will acquire knowledge of the interactions of the body's structures including cells, tissues, organs, and certain organ systems. You will learn the structures and functions of the integumentary, skeletal, muscular, cardiovascular, and respiratory systems.

**Credit unit(s):** 4.0  
**Prerequisites:** none  
**Equivalent course(s):** ANAT 160, APHY 162CE, NURS 111

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<th>APHY 162 – Anatomy and Physiology 1</th>
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</table>

1. Describe the sciences of anatomy and physiology of the human body.  
2. Describe the chemical levels of organization of the human body.  
3. Describe the structures and functions of human cells.  
4. Describe the structures and functions of human tissues.  
5. Describe the structures and functions of the integumentary system.  
6. Describe the structures and functions of the skeletal system.  
7. Describe the structures and functions of the muscular system.  
8. Describe the structures and functions of blood.  
9. Describe the structures and functions of the cardiovascular system.  
10. Describe the structures and functions of the lymphatic system.  
11. Describe the structures and functions of the respiratory system.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S PLAR contact person.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**APHY 164 - Anatomy and Physiology 1**

You will be introduced to the anatomical structure and physiological function of the human body. Your studies will focus on the basic organization of the body concentrating on the respiratory system, cardiovascular system and nervous system.

- **Credit unit(s):** 3.0
- **Prerequisites:** none
- **Equivalent course(s):** APHY 164CE

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<tr>
<th>APHY 164 – Anatomy and Physiology 1</th>
<th>Competent</th>
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<tr>
<td>1. Describe the structural organization of the human body.</td>
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<td>2. Describe the chemical level of organization.</td>
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<td>3. Describe the cellular level of organization.</td>
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<td>4. Describe the tissue level of organization.</td>
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<td>5. Describe the structure and function of the respiratory system.</td>
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<td>6. Describe the structure and function of the cardiovascular system.</td>
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<td>7. Describe the structure and function of the central nervous system.</td>
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<td>8. Describe the structure and function of the peripheral nervous system.</td>
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**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and have received specific directions.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
APHY 165 – Anatomy and Physiology 2

You will be introduced to the anatomical structure and physiological function of the human body. Your studies will focus on the basic organization of the body concentrating on the respiratory system, cardiovascular system and nervous system.

Credit unit(s): 3.0
Prerequisites: none
Equivalent course(s): APHY 165CE

APHY 165 – Anatomy and Physiology 2

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<td>I have no knowledge or experience related to this outcome</td>
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1. Describe the structure and function of the immune system.
2. Describe the structure and function of the endocrine system.
3. Describe the structure and function of the urinary system.
4. Describe the structure and function of the reproductive system.
5. Describe the structure and function of the digestive system.
6. Describe the structure and function of the integumentary system.
7. Describe the structure and function of the skeletal system.
8. Describe the structure and function of the muscular system.

PLAR consultation

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

PLAR assessment

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and have received specific directions.

Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**APHY 189 – Anatomy and Physiology**

You will be introduced to the study of the human body and how it functions efficiently. You will study various body systems that are of critical importance for the promotion and maintenance of health.

**Credit unit(s):** 3.0  
**Prerequisites:** none  
**Equivalent course(s):** APHY 188, APHY 189CE, NURS 111

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<th><strong>APHY 189 – Anatomy and Physiology</strong></th>
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<td><strong>Competent</strong></td>
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<tr>
<td><strong>Learning</strong></td>
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<tr>
<td><strong>None</strong></td>
<td>I have no knowledge or experience related to this outcome</td>
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</table>

1. Describe the anatomical and organizational levels of the body.
2. Describe the chemical constituents, structure and functions of the cell.
3. Describe the characteristics and functions of tissues, membranes and the integumentary system of the body.
4. Describe the structure and function of the skeletal system, articulations and the muscular system.
5. Describe the structures and general functions of the nervous and endocrine systems.
6. Describe the components of blood and their functions and the role of the heart in the cardiovascular system.
7. Describe the structure and functions of the circulatory system (cardiovascular and lymphatic) and respiratory system.
8. Describe structures and general functions of digestive, urinary and reproductive systems.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

Prepare for assessment after you have been approved and registered for PLAR and received specific directions. PLAR assessment may include one or more of the following methods:

1. **Challenge exam:** A 50-minute, closed book exam consisting of multiple choice questions.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
APHY 200 – Anatomy and Physiology 2
You will continue to study the anatomy and physiology of the human body, focusing on how its structures function to maintain homeostasis. You will learn the structures and functions of the endocrine, urinary, nervous, digestive, sensory and reproductive systems.

**Credit unit(s):** 4.0  
**Prerequisites:** APHY 100  
**Equivalent course(s):** none

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1. Describe the structures and functions of Endocrine Glands.
2. Describe the structures and functions of the Urinary System.
3. Describe the structures and functions of Nerve Tissue.
4. Describe the structures and functions of the Central Nervous System.
5. Describe the structures and functions of the Peripheral Nervous System.
6. Describe the structures and functions of the Digestive System.
7. Describe the structures and functions of the General and Special Senses.
8. Describe the structures and functions of the Reproductive System.

**PLAR consultation**
First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**
If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S PLAR contact person.

**Resources**
Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**APHY 262 – Anatomy and Physiology 2**

You will continue to study the anatomy and physiology of the human body, focusing on how its structures function to maintain homeostasis. You will learn the structures and functions of the endocrine, urinary, nervous, digestive, sensory, and reproductive systems.

**Credit unit(s):** 4.0  
**Prerequisites:** APHY 162  
**Equivalent course(s):** ANAT 265, APHY 262CE, NURS 111

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<td><strong>Competent:</strong></td>
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1. Describe the structures and functions of endocrine glands.  
2. Describe the structures and functions of the urinary system.  
3. Describe the structures and functions of nerve tissue.  
4. Describe the structures and functions of the central nervous system.  
5. Describe the structures and functions of the peripheral nervous system.  
6. Describe the structures and functions of the digestive system.  
7. Describe the structures and functions of the general and special senses.  
8. Describe the structures and functions of the reproductive system.

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**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the **A&S Department Head** at your nearest Sask Polytech campus.

**PLAR assessment**

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S PLAR contact person.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the **Sask Polytech Bookstore** is optional.
ASRT 180 – Assertiveness Training

You will focus on the cognitive and behavioural aspects of assertiveness. You will examine how you approach conflict. You will also discuss and practice specific techniques for successful conflict management.

Credit unit(s): 1.0
Prerequisites: none
Equivalent course(s): none

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<thead>
<tr>
<th>ASRT 180 – Assertiveness Training</th>
<th>Competent</th>
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</table>

1. Describe conflict and conflict resolution styles.
2. Demonstrate assertive behaviour.
3. Describe how thinking processes and assertiveness are related.
4. Describe how behavioural rehearsal procedures and assertiveness are related.

PLAR consultation

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PLAR assessment

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S PLAR contact person.

Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
BCOM 103 – Interpersonal Communications

The course will provide opportunities for you to develop important skills used to facilitate effective interpersonal communication in the workplace. Your studies will focus on the development of active listening skills, conflict resolution strategies, oral presentation skills and problem-solving strategies.

**Credit unit(s):** 3.0  
**Prerequisites:** none  
**Equivalent course(s):** BCOM 103CE, BCOM 121, COMM 112, COMM 291, HUMR 186

<table>
<thead>
<tr>
<th>BCOM 103 – Interpersonal Communications</th>
<th>Competent</th>
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1. Describe factors that affect interpersonal communications. 
2. Describe the impact of diversity on efficacy of interpersonal communications. 
3. Use active listening and feedback strategies. 
4. Use non-verbal communication strategies to enhance business communications. 
5. Demonstrate effective verbal communication skills. 
6. Use problem-solving techniques. 
7. Use conflict resolution techniques.

**PLAR consultation(s)**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

Prepare for assessment after you have been approved and registered for PLAR and received specific directions. PLAR assessment may include one or more of the following methods:

1. **Evidence file:** You may be asked to provide work samples demonstrating your mastery of the critical criteria for each learning outcome in the checklist above. The documentation in the evidence file must be verified and validated by your employer or supervisor. The person validating your work must not have a personal relationship with you. Validation from a family member or close friend will not be accepted.

2. **Structured interview:** The assessor may interview you to validate and clarify information in the evidence file.

3. **Demonstration:** As required, you will demonstrate each critical criterion on the validation checklist while being observed by the assessor.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Saskatchewan Polytechnic Bookstore is optional.
**BCOM 120 – Business Communications 1**

You will develop fundamental employability skills through study of the principles of communication. The course content includes development of effective writing skills. You will apply the principles and skills by writing letters and memorandums for both 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  
**Prerequisites:** none  
**Equivalent course(s):** BCOM 104, TCOM 102, TCOM 180

### PLAR consultation

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### PLAR assessment

Prepare for assessment after you have been approved and registered for PLAR and received specific directions. PLAR assessment may include one or more of the following methods:

1. **Evidence file** - The following items may be requested:
   - 2 routine business memos
   - 2 routine business e-mails
   - 2 routine business letters
   - 2 negative business letters
   - Employer validation letter(s) ([Appendix A](#))
   - Performance checklist to validate communication skills

2. **Challenge exam**
   - Critical Learning Outcome 6 is weighted at 40% of the exam
   - Critical Learning Outcome 7 is weighted at 40% of the exam
   - Learning Outcomes 1 - 4 are weighted at 20% of the exam
3. **Assignments** — Memos, e-mails, and/or letters may be assigned if the evidence file is incomplete.

**Resources**
Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
BCOM 121 – Business Communications 2

You will continue to develop effective business writing skills and employability skills. The course focuses on writing business reports in both informal and formal styles. In addition, classroom study and experience will help prepare you for a business career by developing your presentation skills.

**Credit unit(s):** 4.0

**Prerequisites:** BCOM 120

**Equivalent course(s):** COMM 149

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### BCOM 121 – Business Communications 2

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</table>

1. Conduct research for a report.
2. Create documentation notes and bibliographies.
3. Organize business reports.
4. Use graphics to illustrate reports and presentations.
5. Write proposals.
6. Write user manuals.
7. Write systems documentation.
8. Deliver effective oral presentations using presentation tools.
9. Evaluate oral presentations.

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**PLAR consultation**

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**PLAR assessment**

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and received specific directions.

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**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the **Sask Polytech Bookstore** is optional.
**BCOM 600 – Business Communications**

You will practice written and oral communication skills that managers use on the job. You will study how to write effective letters, emails, and reports. You will practice planning and conducting meetings and doing verbal presentations.

**Credit unit(s):** 3.0  
**Prerequisites:** none  
**Equivalent course(s):** MGMT 125

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<tr>
<th><strong>BCOM 600 – Business Communications</strong></th>
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1. Identify the purpose and characteristics involved in creating an effective business message.
2. Apply guidelines for adapting short messages to audience needs.
3. Recognize business conventions used to organize information in emails, letters, or memos.
4. Explain the process of writing.
5. Create letters or memos that demonstrate their knowledge of organizational patterns for writing routine messages, persuasive messages, or messages that deliver negative information in the most positive style.
6. Compose a short report that demonstrates an appropriate organization, writing style, and documentation.
7. Explain how to plan and conduct a business meeting.
8. Deliver an oral presentation.

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**PLAR consultation**

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**PLAR assessment**

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**Resources**

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**BIOL 100 – Human Anatomy and Physiology 1**

You will study the human body, how it is constructed and how it functions to maintain homeostasis. You will focus on the interaction between the structures of the body cells, tissues, organs and organs systems. You will learn about levels of organization of the human body, cells, and tissues. You will examine integumentary, skeletal, muscular, nervous, and sensory systems.

**Credit unit(s):** 3.0  
**Prerequisites:** none  
**Equivalent course(s):** BIOL 100CE

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<th>BIOL 100 – Human Anatomy and Physiology 1</th>
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1. Explain the sciences of Anatomy and Physiology of the human body.
2. Determine how the chemical levels of organization of the human body impact homeostasis.
3. Examine the structures and functions of human cells.
4. Describe the structures and functions of human tissues.
5. Describe the structures and functions of the integumentary system.
6. Examine osseous tissue, the structures and functions of the skeletal system, and articulations.
7. Examine skeletal muscle tissue and the structures and functions of the muscular system.
8. Describe the structures and functions of neural tissue.
9. Examine the structures and functions of the central nervous system.
10. Examine the structures and functions of the peripheral nervous system.
11. Examine the structures and functions of the general and special senses.

**PLAR consultation**

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**PLAR assessment**

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**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
BIOL 101 – Human Anatomy and Physiology 2

You will continue to study the anatomy and physiology of the human body. You will learn about fluids, electrolytes, and acid-base balance. You will examine structures and functions of the cardiovascular, lymphatic, respiratory, digestive, urinary, endocrine, and reproductive systems.

Credit unit(s): 3.0  
Prerequisites: BIOL 100  
Equivalent course(s): BIOL 101CE

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<th>BIOL 101 – Human Anatomy and Physiology 2</th>
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1. Examine the structures and functions of blood.  
2. Examine the structures and functions of the cardiovascular system.  
3. Compare how the structures and functions of the lymphatic system are involved in creating innate and adaptive immunity.  
4. Compare how the structures and functions of the respiratory system influence respiratory physiology.  
5. Examine the structures and functions of the digestive system.  
6. Illustrate how the structures of the urinary system function to maintain homeostasis, including their regulatory mechanisms.  
7. Demonstrate the principles of fluids, electrolytes, and acid-base balance to disturbances in homeostasis.  
8. Describe the structures and functions of the endocrine system.  
9. Examine the structures and functions of the reproductive system.

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Resources

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CALC 100 - Integral Calculus
Building on the knowledge you acquired in MATH 182 (Technical Mathematics and Differential Calculus), you will study the differentiation and integration of algebraic and transcendental functions, and applications of these concepts to max/min problems, related rates, tooth solutions, areas, centroids and moments of inertia.

Credit unit(s): 4.0
Prerequisites: MATH 182
Equivalent course(s): CALC 181

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<th>CALC 100 - Integral Calculus</th>
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1. Solve derivatives of transcendental functions.
2. Solve integration.
3. Apply indefinite integration.
4. Calculate the definite integral.
5. Solve applications of the definite integral.
6. Solve centroids and moments of inertia.
7. Evaluate methods of integration.

PLAR consultation
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PLAR assessment
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Resources
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CALC 181 – Technical Mathematics and Integrals

You will receive a sound calculus background for solving a wide range of problems in the field of mechanical engineering. You will receive an introduction to integral calculus and learn how to apply it in a variety of situations. Differential and integral calculus will be expanded to include transcendental functions.

**Credit unit(s):** 5.0  
**Prerequisites:** MATH 182  
**Equivalent course(s):** CALC 100, CAL 190, MAT 221

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<th><strong>CALC 181 – Technical Mathematics and Integrals</strong></th>
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1. Derive derivatives of transcendental functions.
2. Derive integrals of algebraic and transcendental functions.
3. Apply indefinite integration.
4. Apply definite integration.
5. Use advanced methods of integration.

**PLAR consultation**

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**PLAR assessment**

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**Resources**

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CALC 190 – Integral Calculus

Building knowledge acquired in MATH 193 (Mathematics), you will study the differentiation and integration of algebraic and transcendental functions and the applications of these concepts to ma/min problems, root solutions, areas, volumes, centroids, moments of inertia, arc length and surface area.

Credit unit(s): 5.0  
Prerequisites: MATH 193  
Equivalent course(s): CALC 181, MAT 246

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1. Solve derivatives of transcendental functions.
2. Solve antiderivatives of algebraic and transcendental functions.
3. Apply indefinite integration.
4. Calculate the definite integral.
5. Solve applications of the definite integral.
6. Solve centroids and moments of inertia.
7. Use advanced methods of integration.

PLAR consultation

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

PLAR assessment

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Resources

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**CDNS 280 – Canadian Government**

You will become familiar with the history of the Canadian government and system of parliament (including the constitution from 1867 to present). You will learn the broad principles of government and parliament. This includes the concepts of executive federalism and responsible government.

**Credit unit(s):** 3.0  
**Prerequisites:** none  
**Equivalent course(s):** none

| **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 |

1. Examine the identifying characteristics of Canada’s system of parliamentary government.

2. Analyze the effect of regionalism, social class, gender, ethnic and aboriginal issues on political party support in Canada.

3. Examine the developments which have led to the current relationship between Quebec and the Canadian government.

4. Analyze political socialization, and the role of pressure groups and lobbyists, the media and opinion polls.

5. Examine our political parties, the electoral process and the electoral system.

6. Analyze the Canadian Constitution and the Charter of Rights and Freedoms.

7. Examine the structure and functioning of the Executive, Parliament and Judiciary.

8. Explain the relationship between the bureaucracy and “the government”.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

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**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
CHEM 102 – General Chemistry 1

You will study essential chemical concepts including atomic structure, nomenclature, stoichiometry, aqueous solutions, thermodynamics, quantum theory and chemical bonding. In the mandatory lab component, you will be introduced to standard laboratory techniques.

**Credit unit(s):** 3.0  
**Prerequisites:** none  
**Equivalent course(s):** none

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1. Examine fundamental qualitative and quantitative aspects of Chemistry.
2. Examine atomic structure and concepts of mass.
3. Characterize molecular and ionic compounds.
4. Analyze chemical reactions using mass and stoichiometric relationships.
5. Examine chemical reactions involving aqueous solutions.
7. Analyze the energy and enthalpy of chemical reactions.
8. Examine the electronic structure of atoms and ions.
9. Examine chemical bonding and the geometry of molecules.

**PLAR consultation**

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**PLAR assessment**

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and have received specific directions.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
CHEM 103 – General Chemistry 2

You will study properties of liquids, solids and solutions. You will study rates and equilibrium for chemical reactions with application to acids and bases and consider aspects of thermodynamics and electrochemistry. In the mandatory lab component, you will practice standard laboratory techniques.

Credit unit(s): 3.0
Prerequisites: CHEM 102
Equivalent course(s): none

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1. Examine matter in the solid or liquid phase.
2. Examine solubility and properties of solutions.
3. Analyze chemical reactions with respect to time.
4. Analyze chemical reactions at equilibrium.
5. Characterize acids and bases.
6. Analyze buffer solutions and solubility equilibria.
7. Examine thermodynamics for chemical reactions.
8. Examine aspects of electrochemistry.

PLAR consultation

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PLAR assessment

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Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**CHEM 125 – Chemistry 1**

Your studies will focus on the chemistry laboratory, structure of the atom, mole relationship, nomenclature, stoichiometry, gases, solution concentrations, and colligative properties. Laboratory experiments will supplement the lectures.

**Credit unit(s):** 4.0  
**Prerequisites:** none  
**Equivalent course(s):** none

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1. Demonstrate safe laboratory protocol.
2. Outline the scientific process and the format for an experimental write-up.
3. Perform physical measurement calculations.
5. Examine the chemical nomenclature of ionic and molecular compounds.
6. Solve problems involving variable in chemical reactions.
7. Classify types of chemical reactions.
8. Experiment with stoichiometric values in chemical reactions.
9. Examine the laws that govern the gaseous state of matter.
10. Explore different ways of expressing concentration.
11. Test colligative properties of ionic and non-ionic solutions.

**PLAR consultation**

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**PLAR assessment**

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and have received specific directions.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
CHEM 225 – Chemistry 2
You will study equilibrium, acid-base, buffer, oxidation-reduction, metal corrosion prevention. Laboratory experiments will supplement the lectures.

**Credit unit(s):** 4.0  
**Prerequisites:** CHEM 125  
**Equivalent course(s):** none

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**CHEM 225 – Chemistry 2**

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| 1. Determine equilibrium constants and equilibrium concentrations of reactant and products. |
| 2. Determine the solubility of sparingly soluble salts and their Ksp values. |
| 3. Analyze Arrhenius and Bronsted-Lowry theories of acids and bases. |
| 4. Test solutions involving strong and weak acids and bases. |
| 5. Differentiate stoichiometric reactions of weak acids and bases using Ka and Kb values. |
| 6. Determine the pH and pOH of solutions. |
| 7. Demonstrate titration analysis of solutions. |
| 8. Illustrate how the pH of a solution depends on the hydrolysis of salts. |
| 10. Examine redox chemical reactions involving the transfer of electrons. |
| 11. Differentiate different types of Voltaic cells used in the prevention of the corrosion of metals. |

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**PLAR consultation**

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**PLAR assessment**

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**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
CHEM 282 – Nuclear Chemistry

You will be introduced to the fundamental concepts of nuclear chemistry. Your studies will include: radioactivity, rates of decay, nuclear reactions, radioactive isotopes, radiation measurement, radiation units and safety, the biological effects of radiation, and the use of radiation detection devices in the laboratory.

Credit unit(s): 2.0
Prerequisites: CHEM 178, STAT 185
Equivalent course(s): none

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<tr>
<th>CHEM 282 – Nuclear Chemistry</th>
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1. Describe structure and stability of the atomic nucleus.
2. Summarize radioactivity and nuclear energy.
3. Describe different radiation units and safety.
4. Demonstrate the use of radiation detection and detector devices.

PLAR consultation

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

PLAR assessment

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and have received specific directions.

Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
COAP 136 – Visual and Textual Programming

You will study and use visual and structure text programming languages to develop and document automated problem solutions related to instrumentation technology. You will implement the data types, logical structures, objects and components of the visual and textual languages appropriate to the nature of the industrial problem. Programming techniques and appropriate interface will be discussed in the presentations and problem exercises, and program documentation will be emphasized.

Credit unit(s): 3.0  
Prerequisites: none  
Equivalent course(s): none

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<tr>
<th>COAP 136 – Visual and Textual Programming</th>
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1. Employ basic computer programming components and logic.
2. Use flowcharting-pseudocode to develop and document appropriate programming solution.
3. Apply sequential programming logic structure.
4. Apply decision and repetition programming logic structure.
5. Apply decision and repetition logic to problems involving an array of data input.
6. Modify programming solutions to implement functions and procedures.
7. Employ functions and procedures for event driven programming.
8. Employ functions and procedures for flow driven programming.
9. Implement a simple program for input, process and output of text file data.
10. Implement an event or flow driven programming solution for an instrumentation-related problem.

PLAR consultation

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

PLAR assessment

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and received specific directions.

Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
COM 101 – Written and Oral Communications

You will receive instruction and practice in written and oral communication skills needed for the professional workplace. You will review the principles of effective writing, prepare oral presentations, and practice common forms of business communication. Communicating a professional image will be emphasized.

**Credit unit(s):** 2.0  
**Prerequisites:** none  
**Equivalent course(s):** BCOM 120, COM 101CE, COMM 292

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<th><strong>COM 101 – Written and Oral Communications</strong></th>
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1. Create business correspondence.  
2. Use professional email practices.  
3. Write business reports and proposals.  
4. Deliver oral presentations.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

Prepare for assessment after you have been approved and registered for PLAR and received specific directions. PLAR assessment may include one or more of the following methods:

1. **Evidence file:** An evidence file with documentation of presentation skills is required to assess COM 101. If a candidate is unable to meet these requirements, an appropriate combination of assessment methods will be used in addition to the evidence file.
   - Current resume  
   - 1 business letter  
   - 1 email  
   - 1 incident report  
   - 1 short proposal or other short report  
   - Employer validation letter (Appendix A)  
   - Employer checklist to validate presentation skills

2. **Assignments and/or Examination (may be required)**
   - An incident report, proposal and/or oral presentation may be assigned if the evidence file is incomplete  
   - A further demonstration of grammar skills may be required in combination with the evidence file  
   - 1-hour grammar exam (Learning outcome #1 above)

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional. If you do purchase the course manual, ask for the Funeral Services or the Food and Nutrition Management/Hotel Restaurant Administration version.
**COM 104 – Teamwork & Collaboration**

You will develop collaborative and teamwork skills and apply them to pharmacy technician practice, including effective research skills, professional documentation, and a collaborative approach to decision-making in a health team.

**Credit unit(s):** 3.0  
**Prerequisites:** none  
**Equivalent course(s):** none

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<th><strong>COM 104 – Teamwork &amp; Collaboration</strong></th>
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1. Apply basic research skills.  
2. Create professional workplace documentation.  
3. Discuss collaborative decision-making.  
4. Apply effective teamwork skills.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S PLAR contact person.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
COM 113 - Interpersonal Communications

You will acquire knowledge and practice in interpersonal communications, focusing on effective verbal and non-verbal communication, listening and responding skills, giving and receiving constructive feedback and problem solving. You will apply these techniques to the delivery of effective oral presentations. You will examine the demonstration of a professional image through your interpersonal, presentation and social media communications.

**Credit unit(s):** 3.0  
**Prerequisites:** none  
**Equivalent course(s):** none

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<th>COM 113 - Interpersonal Communications</th>
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1. Describe interpersonal communication.
2. Use strategies for listening and responding.
3. Discuss non-verbal and verbal messages.
4. Give constructive feedback.
5. Respond to constructive feedback.
6. Demonstrate problem solving skills.
7. Discuss social media ethics.
8. Demonstrate a professional presentation.

**PLAR consultation**
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**PLAR assessment**
PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and received specific directions.

**Resources**
Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
COM 160 – Communications for Graphic Arts

You will practice effective interpersonal, oral, and written communicating skills. You will learn how to give and accept criticism, resolve conflicts, and handle customer complaints. You will also use critical thinking, teamwork, and problem solving skills.

**Credit unit(s):** 2.0  
**Prerequisites:** none  
**Equivalent course(s):** COMM 127

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<th>COM 160 – Communications for Graphic Arts</th>
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1. Apply interpersonal and oral communication skills.
2. Practice written communications.
3. Practice critical thinking and problem solving skills.

**PLAR consultation**

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**PLAR assessment**

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**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
COM 170 – Professional Workplace Communication

You will focus on specific skills, behaviours, and attitudes needed to work productively with others. You will examine the role and effects of social media and digital communications in and outside the workplace. You will also practice conflict resolution skills as well as teamwork skills.

**Credit unit(s):** 4.0  
**Prerequisites:** none  
**Equivalent course(s):** none

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<th><strong>COM 170 – Professional Workplace Communication</strong></th>
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1. Examine fundamentals of workplace communication.
2. Examine elements of verbal and nonverbal communication.
3. Examine group communication and teamwork skills.
4. Practice conflict resolution skills.
5. Discuss the role of digital communication and social media in the workplace.

**PLAR consultation**

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**Resources**

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COMM 106 – Applied Communications

You will create a job search strategy, research an employer and complete a mock job interview. You will prepare a professional cover letter and resume.

**Credit unit(s):** 1.0  
**Prerequisites:** none  
**Equivalent course(s):** COMM 127, COMM 189, JOBS 290, TCOM 102

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<th><strong>COMM 106 – Applied Communications</strong></th>
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1. Use job search skills.

**PLAR consultation**

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**PLAR assessment**

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**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
COMM 113 – Applied Communications

You will apply oral, written and interpersonal skills needed for successful communication at the library, and specifically with clients. You will receive instruction and practice in effective writing. You will also use job search skills and produce job search documents.

**Credit unit(s):** 3.0  
**Prerequisites:** COMM 291  
**Equivalent course(s):** COMM 192

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### COMM 113 – Applied Communications

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1. Demonstrate effective oral communication.
2. Prepare business correspondence.
3. Produce technical documents.
4. Demonstrate appropriate customer relations behaviour.
6. Create job search documents.

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### PLAR consultation

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### PLAR assessment

Prepare for assessment after you have been approved and registered for PLAR and received specific directions. PLAR assessment may include one or more of the following methods:

1. **Evidence file:** You may be asked to provide an Employer Validation Checklist for workplace communication skills (Appendix A) and other validated documentation.

2. **Challenge exam**

### Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
COMM 119 – Writing Skills

You will practice a variety of written communication styles. You will receive information on basic grammar and the mechanics of writing. You will do research and create a research essay. Additionally, you will develop a professional portfolio.

Credit unit(s): 3.0
Prerequisites: none
Equivalent course(s): COMM 119CE, COMM 295

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1. Apply the structure of written communication.
2. Demonstrate proper use of grammar and punctuation.
3. Prepare for essay writing.
5. Create a variety of reports/forms.
6. Develop a professional portfolio.

PLAR consultation

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

PLAR assessment

Prepare for assessment after you have been approved and registered for PLAR and received specific directions. PLAR assessment may include one or more of the following methods:

1. Evidence file: The requirements for an evidence file are as follows:
   - A professional portfolio including information within these categories: resume, community development experience, awards, certificates and professional development, supervision and evaluation documents, initiatives and special projects, and personal interests
   - A research essay utilizing APA format with a minimum of 750 words

2. Challenge exam: Complete a comprehensive challenge exam on the rules of grammar.

Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
COMM 127 – Fundamental Communication Skills

You will use fundamental employability skills related to obtaining and keeping a job. You will apply skills to work effectively with others and produce job-related documents. You will identify employability and practical skills to prepare effective job search materials and discuss the effect of attitudes and behaviours on a successful job search.

Credit unit(s): 2.0
Prerequisites: none
Equivalent course(s): COMM 127A, COMM 127CE, COMM 187, COMM 191, COMM 193, JOBS 190, PROF 100, TCOM 102, TCOM 105, TCOM 120, TCOM 140

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1. Apply job-related interpersonal communication strategies.
2. Examine effective digital communication.
3. Prepare job-related written communication.
4. Use job search skills.

PLAR consultation

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

PLAR assessment

Prepare for assessment after you have been approved and registered for PLAR and received specific directions. PLAR assessment may include one or more of the following methods:

1. **Evidence file**: Include items such as a business letter, employer validation letter (ask for template), forms and work orders, current resume, and a letter.

2. **Challenge Exam**

Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
COMM 197 – Helping Skills

You will apply communication skills to facilitate a helping relationship with your clients, their families, significant others, other health care staff, as well as various other professionals.

**Credit unit(s):** 1.0

**Prerequisites:** COMM 291

**Equivalent course(s):** COMM 160, COMM 197CE, COMM 293, HUMR 186, NEPS 112, NURS 163

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<tr>
<td>1. Demonstrate helping skills.</td>
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<td>2. Apply practical helping skills.</td>
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**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

Prepare for assessment after you have been approved and registered for PLAR and received specific directions. PLAR assessment may include one or more of the following methods:

1. **Skills demonstration:** You must bring another person to converse with for this skills lab. The demonstration consists of two activities:
   - Two scenarios to role play
   - Five short answer response questions

2. **Challenge exam:** The challenge exam includes 40 multiple choice questions pertaining to the five communication skills.

   Travelling to an assessment site at your own expense is required. You will have 3 hours to complete both the skills demonstration and exam. A self-test is available on request to identify any gaps in your learning before challenging the graded PLAR exam.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
COMM 262 - Workplace Communication

You will review effective writing skills and apply those skills to workplace documents: e-mails, memos, business letters, and reports. You will apply effective oral communication to individual presentations and meetings. You will examine interpersonal relationships in the workplace and demonstrate conflict resolution skills in individual and group settings.

**Credit unit(s):** 2.0  
**Prerequisites:** none  
**Equivalent course(s):** COMM 262CE

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<th><strong>COMM 262 - Workplace Communication</strong></th>
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<td>Learning: I am still learning skills and knowledge to apply this outcome</td>
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1. Demonstrate effective written communication skills.
2. Prepare various written documents for the workplace.
3. Demonstrate effective oral communication.
4. Demonstrate effective interpersonal conflict resolution.
5. Examine group communication and teamwork skills.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

Prepare for assessment after you have been approved and registered for PLAR and received specific directions. PLAR assessment may include one or more of the following methods:

1. **Evidence file:** Ask the department head or PLAR assessor for more details.
2. **Challenge exam:** A combination of multiple choice, fill-in-blanks, and short answer questions with a 2-hour time limit.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**COMM 287 - Communications**

You will learn the basic skills of oral and interpersonal communication, emphasizing the role of the veterinary technologist. Positive interpersonal interactions, customer service and teamwork will be stressed. Students also learn about the job search process, which includes developing a resume and letter of application.

**Credit unit(s):** 3.0  
**Prerequisites:** VETR 189  
**Equivalent course(s):** none

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1. Develop job search skills and strategies.  
2. Examine individual differences that impact interpersonal communications.  
3. Develop teamwork skills.  
4. Distinguish effective conflict resolution strategies.  
5. Develop customer relation skills.  
6. Assess your ability to handle stress.

**PLAR consultation**

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**PLAR assessment**

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S PLAR contact person.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**COMM 289 – Communications 2**

You will study technical writing and oral presentation skills for the technologist. You will practice research methods, report writing, and oral presentation skills appropriate to the profession.

**Credit unit(s):** 3.0  
**Prerequisites:** COMM 191 or TCOM 102  
**Equivalent course(s):** none

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<th><strong>COMM 289 – Communications 2</strong></th>
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1. Conduct research for a technical report.
2. Create presentation-quality technical reports.
3. Use graphics technology to illustrate technical reports and presentations.
4. Present technical information orally.
5. Develop short reports.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S PLAR contact person.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**COMM 291 – Interpersonal Communication**

You will develop employability skills through the study of interpersonal communications theory and applications in the workplace. Learning outcomes include the importance of self-awareness and self-esteem, perception problems, verbal and non-verbal messages, listening skills, creating positive communication climates, and resolving interpersonal conflict.

**Credit unit(s):** 2.0  
**Prerequisites:** none  
**Equivalent course(s):** BCOM 103, COMM 112, COMM 135, COMM 155, COMM 160, COMM 291CE, COMM 381, HUMR 182, HUMR 186, JOBS 190, NEPS 114, NURS 114, NURS 163

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1. Describe interpersonal communication.  
2. Describe how self-concept and perception affect communication.  
3. Discuss verbal and nonverbal messages.  
4. Discuss factors affecting communication climates.  
5. Apply skills to improve communication.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the **A&S Department Head** at your nearest Sask Polytech campus.

**PLAR assessment**

Prepare for assessment after you have been approved and registered for PLAR and received specific directions. PLAR assessment may include one or more of the following methods:

1. **Evidence file:** Learning outcomes 3 and 5—Employer validation letter (ask for template) and checklist of workplace communication skills, and case study.  
2. **Challenge exam:** Learning outcomes #1-4 above.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the **Sask Polytech Bookstore** is optional.
COMM 295 – Business and Technical Writing

You will receive instruction and practice in written communication skills needed as a professional. You will review grammar and the mechanics of writing, study and practice research skills and techniques, and produce examples of business and technical writing.

Credit unit(s): 3.0
Prerequisites: none
Equivalent course(s): BCOM 120, COMM 262

| **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 |

1. Identify elements of communication.
2. Employ effective written Canadian English.
3. Demonstrate effective research and documentation.
4. Create a summary and an analysis.
5. Employ appropriate elements of business correspondence.
6. Create a formal technical report proposal.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

Prepare for assessment after you have been approved and registered for PLAR and received specific directions. PLAR assessment may include one or more of the following methods:

1. **Evidence file**
   - Employer validation of workplace communications OR exam
   - A completed thesis OR long research paper OR take home assignment
   - A summary written for the workplace OR a take-home assignment
   - Portfolio of workplace correspondence OR take-home assignment
   - A proposal written for the workplace OR take-home assignment
   - Validation letter from supervisor or colleague

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
COMM 301 - Managerial Communication

You will analyze organizational communications structures and practices. You will practice your writing skills by composing various types of correspondence, including email, social media, letters and reports. Your public speaking skills will be strengthened by conducting interviews, facilitating group discussions and delivering a formal presentation.

Credit unit(s): 3.0
Prerequisites: none
Equivalent course(s): none

| 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 |

1. Analyze the role and process of organizational communications.
2. Distinguish the characteristics of effective organizational communications.
3. Examine the influence of workplace diversity on organizational communications.
4. Compose internal and external business correspondence.
5. Organize and facilitate group discussions and meetings.
6. Plan and conduct interviews.
7. Create and deliver a formal proposal.

PLAR consultation

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

PLAR assessment

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S PLAR contact person.

Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**COMM 393 – Communications 1**

You will develop the oral and written skills needed to communicate effectively in a variety of situations. You will also demonstrate appropriate customer service skills and use job search skills.

**Credit unit(s):** 3.0  
**Prerequisites:** none  
**Equivalent course(s):** none

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1. Use job search skills.  
2. Apply job related oral and interpersonal communication.  
3. Apply job related written information.  
4. Demonstrate customer service skills.  
5. Explain aviation SMS.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the **A&S Department Head** at your nearest Sask Polytech campus.

**PLAR assessment**

Prepare for assessment after you have been approved and registered for PLAR and received specific directions. PLAR assessment may include one or more of the following methods:

1. **Evidence file**
   - Completion of *Employment Audit and Checklist* (request from PLAR contact person), and/or  
   - Evidence of successful completion of a communications, or customer relations course, and/or  
   - Evidence of prepared personal resume, cover letter, and personal interview

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the **Sask Polytech Bookstore** is optional.
**COSC 262 – Database Programming**

You will learn the structure of program design, development, testing and documentation. You will learn to design single and multi-table databases using Statistical Package for Social Sciences (SPSS) and Access. Your course content will include the fundamentals of algorithms and algorithm analysis.

**Credit unit(s):** 4.0  
**Prerequisites:** COMP 176  
**Equivalent course(s):** COSC 262CE

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<tr>
<th>CSC 262 – Database Programming</th>
<th>Competent</th>
<th>Learning</th>
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| Outcome | Competent | Learning | None |
| 1. Design a single table Access database. | | | |
| 2. Design queries for a single table Access database. | | | |
| 5. Create SPSS data and output files. | | | |
| 6. Analyze variables using appropriate SPSS reports. | | | |
| 7. Select cases in an SPSS dataset. | | | |
| 8. Develop refined datasets in SPSS. | | | |

**PLAR consultation**

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**PLAR assessment**

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S **PLAR contact person**.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the **Sask Polytech Bookstore** is optional.
DRAW 100 – Technical Drawing

You will learn how to use various drawing instruments to produce drawings and sketches for parts production.

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

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1. Use various drawing instruments.
2. Demonstrate orthographic drawing skills.
3. Use dimensioning standards.
4. Apply tolerancing standards.
5. Construct sectional views.
6. Construct auxiliary views.
7. Determine coordinate data for job plans and tool path generation.
8. Construct isometric views.

PLAR consultation

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PLAR assessment

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and have received specific directions.

Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
You will learn the basic theory and skills needed to generate graphic representation of an idea, concept or entity. You will use engineering lettering and geometric construction, prepare engineering graphs with computer software, use sketching methods, use basic descriptive geometry and its applications, and develop orthographic drawings, dimensioning, pictorial drafting, auxiliary views and sectional views. You will also construct engineering technical drawings using the orthographic projection method with an introduction to piping drawings.

**Credit unit(s):** 5.0  
**Prerequisites:** CAD 181 (concurrent)  
**Equivalent course(s):** DRFT 106, DRFT 181

### DRFT 174 - Drafting Principles

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1. Identify basic drafting concepts.  
2. Demonstrate engineering lettering.  
3. Use geometric construction.  
4. Generate engineering graphs.  
5. Produce orthographic drawings by free-hand sketching.  
6. Produce orthographic drawings using computer software.  
7. Dimension drawings.  
8. Construct pictorial drawings.  
9. Use descriptive geometry.  
10. Construct auxiliary view drawings.  
11. Construct sectional view drawings.

### PLAR consultation

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### PLAR assessment

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and have received specific directions.

### Resources

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**DRFT 183 - Drafting and Blueprint Reading**

You will acquire sufficient drafting and blueprint reading skills to produce acceptable shop drawings. You will be able to read all shop drawings for fabricating and maintaining industrial equipment. You will practice fabrication to complete the Arbor Press Project. Wherever possible, drafting courses will be modified to meet the specific requirements of the trade.

**Credit unit(s):** 4.0  
**Prerequisites:** none  
**Equivalent course(s):** none

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<th><strong>DRFT 183 - Drafting and Blueprint Reading</strong></th>
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1. Prepare working sketches and drawings.  
2. Generate assembly drawings and parts list.  
3. Prepare patterns using development techniques.  
4. Interpret welding symbols.  
5. Compose welding symbols.  
6. Develop weld fabrication drawings.  
7. Prepare material lists.  
8. Interpret engineering drawing.

**PLAR consultation**

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**PLAR assessment**

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**Resources**

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DRFT 290 – Basic Drafting
You will integrate non-CAD computer software with CAD software. You will practice the basic concepts of engineering graphics. You will sketch and use AutoCAD. You will use orthographic and isometric projection for shape description. You will draw sectional, auxiliary and partial views. You will develop skill in dimensioning and tolerancing using engineering drawing.

Credit unit(s): 5.0
Prerequisites: DRFT 390
Equivalent course(s): DRFT 174, DRFT 181, GRPH 190

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<tr>
<td>1. Complete freehand engineering sketches.</td>
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<td>2. Demonstrate geometric constructions.</td>
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<tr>
<td>3. Generate orthographic views.</td>
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<td>4. Apply dimensioning to engineering drawings.</td>
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<td>5. Develop auxiliary views.</td>
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<td>6. Construct sectional views.</td>
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<td>7. Construct engineering drawings.</td>
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<td>8. Prepare pictorial drawings.</td>
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<td>9. Create dimensioned pictorial drawings.</td>
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<td>10. Produce fastener drawings.</td>
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PLAR consultation
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PLAR assessment
PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and have received specific directions.

Resources
Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**DRFT 291 – Advanced Drafting**

Your Semester 1 introductory drafting skills will serve as a foundation for this course. You will learn how to prepare a complete set of working drawings on the CAD system. You will become familiar with standard drafting practices and symbols used in a number of different engineering fields.

**Credit unit(s):** 5.0  
**Prerequisites:** DRFT 391, DRFT 290  
**Equivalent course(s):** none

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1. Create engineering drawings that conform to drawing standards.
2. Prepare engineering drawings using AutoCad.
3. Create organized and well documented drawings.
4. Choose drawing numbering system.
5. Generate drawings for the various engineering fields.
6. Select drawings suitable for various production techniques.
7. Compare symbols used by the various engineering fields.
9. Combine standard codes and formulas in your engineering design drawing.
10. Generate sets of engineering drawings of assemblies.
11. Create basic structural drawings.

**PLAR consultation**

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**PLAR assessment**

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**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
EMPL 180 – Employability Skills

You will receive instruction and practice in written communication skills needed in the workplace. You will develop effective job search strategies, with emphasis on communicating a professional image through job search materials and interview skills.

Credit unit(s): 3.0
Prerequisites: none
Equivalent course(s): COM 103, COM 105, COMM 292, EMPL 180CE, EMPS 105

EMPL 180 – Employability Skills

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1. Apply workplace writing skills.
2. Use professional email practices.
3. Write an incident report.
4. Use job search skills.
5. Describe portfolio development.
6. Apply job interview skills.

PLAR consultation

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PLAR assessment

Prepare for assessment after you have been approved and registered for PLAR and received specific directions. PLAR assessment may include one or more of the following methods:

1. Evidence file — The following items may be requested. Specific directions will be clarified by contact person.
   - Learning outcomes #1 & 2 above - Portfolio of workplace correspondence
   - Learning outcome #3 above - Sample of completed incident report OR take-home assignment
   - Learning outcomes #4 & 5 above - Current resume and/or letter of application to PLAR in recognized format with persuasive skills.
   - Learning outcome #6 above - Letter from HR indicating positive interview skills OR exam

Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
EMPS 105 – Personal Management

You will focus on your role in the office including professionalism, your rights and responsibilities, customer relations and time management. You will also prepare for the job search process.

Credit unit(s): 3.0
Prerequisites: none
Equivalent course(s): EMPS 105CE

EMPS 105 – Personal Management

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

1. Develop an employment search strategy.
2. Develop a resume, cover letter, and follow-up correspondence.
3. Prepare an employment portfolio.
4. Prepare for an interview.
5. Recognize employee’s rights and responsibilities.
6. Discuss aspects of professionalism.

PLAR consultation

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PLAR assessment

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Resources

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ENGL 100 – Critical Reading and Writing
You will develop basic skills in critical analysis, effective reading and composition by analyzing and evaluating materials from various disciplines. You will also refine your understanding and practice of the structures of composition by writing a report on a topic of your choice using APA-style format.

Credit unit(s): 3.0
Prerequisites: none
Equivalent course(s): ENGL 100CE

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<thead>
<tr>
<th>ENGL 100 – Critical Reading and Writing</th>
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<td>None: I have no knowledge or experience related to this outcome</td>
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</table>

1. Practice critical writing skills.
2. Practice critical reading skills.
3. Create a report on a chosen topic by applying critical reading, writing, and research skills.

PLAR consultation
First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

PLAR assessment
PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and have received specific directions.

Resources
Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
ENGL 101 - Critical Reading and Writing

You will develop basic skills in critical analysis, effective reading and composition by analyzing and evaluating materials from various disciplines. You will also refine your understanding and practice of the structures of composition by writing a report on a topic of your choice using APA-style format.

**Credit unit(s):** 3.0  
**Prerequisites:** none  
**Equivalent course(s):** ENGL 101CE

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<table>
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1. Practice critical writing skills.  
2. Practice critical reading skills.  
3. Create a report on a chosen topic by applying critical reading, writing, and research skills.

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**PLAR consultation**

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**PLAR assessment**

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**Resources**

Please ask the PLAR contact person to recommend any useful resources to prepare for assessment. Also, look for related resources from online and other sources. Purchasing resources from the Saskatchewan Polytechnic Bookstore is optional.
ENGL 102 – Literature Survey

You will produce high quality, argumentative essays based on Saskatchewan literature. You will analyze and discuss literary works from Saskatchewan authors, issues that have affected Saskatchewan both in the past and present, and write about Saskatchewan-based topics. You will research Saskatchewan-based topics and issues and apply that knowledge in our analysis of the course material. In addition to analyzing course texts, you will learn to recognize logical fallacies and create logical arguments on various topics throughout the course in order to create contentious thesis statements and supportive material.

Credit unit(s): 3.0
Prerequisites: ENGL 101
Equivalent course(s): none

ENGL 102 – Literature Survey

| 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 |

1. Demonstrate knowledge of basic mechanical writing conventions in English.
2. Summarize arguments expressed in essay format.
3. Implement rhetorical strategies in essay writing.
4. Compare and contrast literary works on a similar topic.
5. Compose literary essay.
6. Revise literary essay.

PLAR consultation

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PLAR assessment

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S PLAR contact person.

Resources

Please ask the PLAR contact person to recommend any useful resources to prepare for assessment. Also, Look for related resources from online and other sources. Purchasing resources from the Saskatchewan Polytechnic Bookstore is optional.
Your studies will focus on theory and calculations applied to the power engineering field. The course content includes mass, force, motion, energy, power, vectors and stress calculations.

**Credit unit(s):** 3.0  
**Prerequisites:** ENGP 179  
**Equivalent course(s):** none

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<tr>
<th>ENGP 284 – Applied Mechanics (Third Class)</th>
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</table>

1. Solve basic problems involving vectors and force systems.  
2. Solve complex problems involving friction on horizontal surfaces.  
3. Solve basic problems involving work, power and energy.  
4. Solve basic problems involving linear and angular motion.  
5. Solve basic problems involving material stresses.  
6. Solve basic problems involving bending of beams.  
7. Solve complex problems involving simple machines.  
8. Solve basic problems involving fluids.

**PLAR consultation**

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**PLAR assessment**

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and have received specific directions.

**Resources**

Please ask the PLAR contact person to recommend any useful resources to prepare for assessment. Also, Look for related resources from online and other sources. Purchasing resources from the [Saskatchewan Polytechnic Bookstore](#) is optional.
**ENGP 288 – Applied Mechanics (Second Class)**

You will apply your knowledge and skills by solving problems involving centrifugal force, moments, couples and centroids, torsion, fluid mechanics, flow and orifices as well as weirs.

**Credit unit(s):** 4.0  
**Prerequisites:** ENGP 284  
**Equivalent course(s):** none

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</table>

1. Solve complex problems involving linear motion.
2. Solve complex problems involving work, power and energy.
3. Solve complex problems involving angular motion.
4. Solve complex problems involving friction on inclined surfaces.
5. Solve complex problems involving forces and moments.
6. Solve complex problems involving stress and strain.
7. Solve complex problems involving bending of beams and torsion of shafts.
8. Solve complex problems involving pressure and fluid flow.

**PLAR consultation**

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**PLAR assessment**

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and have received specific directions.

**Resources**

Please ask the PLAR contact person to recommend any useful resources to prepare for assessment. Also, Look for related resources from online and other sources. Purchasing resources from the Saskatchewan Polytechnic Bookstore is optional.
GRPH 181 – Graphics

You will develop suitable drafting and blueprint interpreting skills. You will learn how to read blueprints and produce shop drawings as needed in the trade. You will also learn how to take estimates from these drawings.

Credit unit(s): 4.0
Prerequisites: none
Equivalent course(s): none

<table>
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<tr>
<th>GRPH 181 – Graphics</th>
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</table>

1. Use drafting equipment.
2. Sketch a 2 dimensional object.
3. Sketch isometric and oblique drawings.
4. Sketch orthographic drawings.
5. Use scales to reduce and enlarge drawings.
6. Use basic dimensioning.
7. Interpret basic blueprints.
8. Find location, orientation, and size for any feature.

PLAR consultation

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PLAR assessment

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Resources

Please ask the PLAR contact person to recommend any useful resources to prepare for assessment. Also, Look for related resources from online and other sources. Purchasing resources from the Saskatchewan Polytechnic Bookstore is optional.
HINF 265 – Health Information Systems

Your studies will prepare you to manage and evaluate changes in computer technology and information systems. You will acquire the skills to participate in analyzing and planning for system changes that affect health information files.

Credit unit(s): 3.0
Prerequisites: COMP 175 (concurrent), COMP 176 (concurrent)
Equivalent course(s): HINF 265CE

### HINF 265 – Health Information Systems

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1. Examine health data from various sources.
2. Describe the structure of an existing health information system.
3. Analyze a health information system.
4. Create a system design.
5. Create a system implementation plan.
6. Evaluate responses to a request for proposal.

### PLAR consultation

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

### PLAR assessment

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S PLAR contact person.

### Resources

Please ask the PLAR contact person to recommend any useful resources to prepare for assessment. Also, Look for related resources from online and other sources. Purchasing resources from the Saskatchewan Polytechnic Bookstore is optional.
HUMR 186 – Interpersonal Skills

You will be introduced to the importance of interpersonal skills in the human services professions. You will develop effective listening and speaking behaviors that facilitate client interactions.

**Credit unit(s):** 3.0  
**Prerequisites:** none  
**Equivalent course(s):** COMM 291, COMM 295, HUMR 186CE, NEPS 114, NURS 114

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### HUMR 186 – Interpersonal Skills

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</table>

1. Discuss the importance of interpersonal skills in the human service field.
2. Describe the unique features of a helping relationship.
3. Describe the ethical issues in helping relationships.
4. Describe the effects of self-concept and perception on interpersonal relationships.
5. Create a positive communication climate.
6. Demonstrate assertiveness skills.
7. Integrate attending skills in interactions.

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### PLAR consultation

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### PLAR assessment

Prepare for assessment after you have been approved and registered for PLAR and received specific directions. PLAR assessment may include one or more of the following methods:

1. **Evidence file**
   - Learning outcomes #3-5 above: Case Study (Written)
   - Learning outcomes # 5-7 above: Role Play Demonstration or Employer Validation of workplace communication skills (request from PLAR contact person)

2. **Challenge exam:** Learning outcomes #1-7: Theory Exam

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### Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
JOBS 125 – Essential Job Skills

You will develop essential job skills by preparing job search documents and practising effective interpersonal communication skills for the workplace.

Credit unit(s): 1.0
Prerequisites: none
Equivalent course(s): COMM 106, COMM 127, TCOM 102

<table>
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<tr>
<th>JOBS 125 – Essential Job Skills</th>
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</table>

1. Discuss effective workplace interpersonal communications.
2. Prepare job search documents.

PLAR consultation

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PLAR assessment

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Resources

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**LIT 290 – Canadian Literature Survey 1**

You will study representative works from each of the four major genres, poetry, drama, short fiction and the novel, with examples coming from Canadian literature in English. Specifically, you will examine works written in the Canadian Colonial and National periods. You will also examine works by First Nations authors. You will demonstrate knowledge of critical vocabulary, critically discussing and evaluating works from each genre and period.

- **Credit unit(s):** 3.0
- **Prerequisites:** LIT 190 and LIT 191; LIT 1AA and LIT 1BB
- **Equivalent course(s):** none

<table>
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<tr>
<th>LIT 290 – Canadian Literature Survey 1</th>
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1. Use literary analysis skills.
2. Analyze representative Canadian literature from the genres of poetry, drama, short fiction and the novel.
3. Critically evaluate representative literary works from the Canadian Colonial period.
4. Critically evaluate representative literary works from the Canadian National period.
5. Analyze representative literary works from Canadian First Nations authors.

**PLAR consultation**

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**PLAR assessment**

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**Resources**

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LIT 291 - Canadian Literature Survey 2

Building on your knowledge and skills from Canadian Literature Survey 1, you will employ critical vocabulary in order to analyze representative works from the genres of poetry, drama, short fiction and the novel in Canadian literature in English. Specifically, you will examine works written in the Canadian Modern and Contemporary periods. You will also examine works by Saskatchewan writers. You will demonstrate advanced research and literary analysis skills.

Credit unit(s): 3.0
Prerequisites: LIT 290
Equivalent course(s): none

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<th>LIT 291 - Canadian Literature Survey 2</th>
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1. Use advanced literary analysis skills.
2. Use advanced research skills.
3. Criticize representative Canadian literature from the genres of poetry, drama, short fiction and the novel.
4. Critically evaluate representative literary works from the Canadian Modern period.
5. Critically evaluate representative literary works from the Canadian Contemporary period.
6. Critically evaluate representative literary works by Saskatchewan and First Nations writers.

PLAR consultation

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PLAR assessment

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Resources

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MAT 100 – Mathematics for Instrumentation Engineering Technology

You will learn basic algebra and trigonometry from the technical perspective. Your studies will focus on instrumentation standards and specifications, and algebraic and transcendental mathematics that are the foundation of a variety of instrumentation applications.

**Credit unit(s):** 4.0  
**Prerequisites:** none  
**Equivalent course(s):** none

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1. Compute with exact and approximate numbers.
2. Examine the fundamental axioms and laws of algebra.
3. Simplify algebraic expressions.
4. Solve algebraic equations of linear and non-linear kinds.
5. Formulate algebraic expressions and equations from word description and scientific laws to solve problems.
6. Analyze mathematical relationships and inverse relationships in formal mathematical notation.
7. Interpret graphical properties of relations and functions.
8. Solve systems of simultaneous algebraic equations.
9. Evaluate the elements of trigonometry.
10. Analyze trigonometric and inverse trigonometric functions and equations.
11. Solve technical problems using trigonometry.
12. Evaluate sinusoidal and phasor expressions, equations, and functions.
13. Analyze the elements of exponentials and logarithms.
15. Apply complex numbers in technical problems.
16. Evaluate logarithmic and exponential expressions.
17. Solve logarithmic and exponential equations and functions.
18. Analyze exponential and logarithmic functions.

**PLAR consultation**

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**PLAR assessment**

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Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**MAT 101 – Applied Technical Mathematics**

You will gain a basic background in trigonometry and algebra that is needed to do problem solving in applied areas and to advance to a study of calculus. You will study measurement, computations, algebraic operations, simplifications and solutions, trigonometry, graphing, exponents and logarithms. This course is intended to meet your needs in the construction stream of engineering technologies.

**Credit unit(s):** 5.0  
**Prerequisites:** none  
**Equivalent course(s):** MAT 110, MAT 120

<table>
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<th><strong>MAT 101 – Applied Technical Mathematics</strong></th>
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1. Apply principles of numerical computation.
2. Apply algebraic principles to simple expressions and equations.
3. Apply principles of geometry.
4. Apply principles of functions to graphs and analytical geometry.
5. Apply principles of trigonometry and vectors.
6. Apply algebraic principles to factoring and fractional equations.
7. Apply principles of ratio, proportion and variation.
8. Apply algebraic principles to solve systems of linear equations.
9. Apply algebraic principles to exponents and radicals.
10. Apply algebraic principles to solve quadratic equations.
11. Apply algebraic principles to exponential and logarithmic functions.

**PLAR consultation**

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**PLAR assessment**

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**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**MAT 102 – Vector Algebra**

Students will gain an understanding of vectors through worked examples in many different scenarios. The geometric features of vectors will be discussed in both two and three dimensions. The algebraic features of vectors will be discussed in any dimension and will be presented alongside many practical geomatics applications.

**Credit unit(s):** 3.0  
**Prerequisites:** none  
**Equivalent course(s):** none

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1. Perform basic vector operations.  
2. Examine Cartesian and polar two dimensional coordinate systems.  
3. Apply principles of graphing three dimensional vectors in Cartesian, cylindrical and spherical coordinate systems.  
4. Examine spherical triangles.  
5. Apply vector operations to geometric problems.

**PLAR consultation**

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**PLAR assessment**

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**Resources**

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**MAT 103 – Linear Algebra**

You will gain an understanding of linear algebra and how it applies to engineering technology. You will perform mathematical operations with matrices, study vectors and solve systems of linear equations with matrices, study eigenvalues and eigenvectors, and perform matrix factorizations.

**Credit unit(s):** 3.0  
**Prerequisites:** MAT 102, MAT 110  
**Equivalent course(s):** none

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1. Perform matrix evaluations and operations.  
2. Examine vector transformations with matrices.  
4. Examine eigenvalues and eigenvectors.  
5. Perform matrix factorizations.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the **A&S Department Head** at your nearest Sask Polytech campus.

**PLAR assessment**

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**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the **Sask Polytech Bookstore** is optional.
**MAT 110 – Mathematics for Engineering Technologies**

You will gain foundational knowledge of mathematical topics applicable to engineering technologies. You will study formula manipulations, factoring of algebraic expressions, geometry and trigonometry, exponents and logarithms, and functions and their graphs. This course is intended to build problem solving and critical thinking skills, and to prepare you for studies in calculus.

**Credit unit(s):** 4.0  
**Prerequisites:** none  
**Equivalent course(s):** MAT 101, MAT 110CE

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<th>MAT 110 – Mathematics for Engineering Technologies</th>
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<td><strong>Learning:</strong> I am still learning skills and knowledge to apply this outcome</td>
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<td><strong>None:</strong> I have no knowledge or experience related to this outcome</td>
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1. Examine measurements, formulas and functions.
2. Practice mathematical operations with algebraic expressions.
3. Apply principles of geometry.
4. Analyze trigonometric functions and vectors.
5. Examine systems of linear equations.
6. Examine algebraic equations and functions.
7. Analyze exponential and logarithmic functions.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

PLAR assessment for this course is available as a challenge exam offered only during the first week of the course. For details, contact the A&S Department Head at Moose Jaw Campus.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**MAT 111 – Calculus for Engineering Technologies**

You will gain knowledge of calculus topics applicable to engineering technologies. You will study derivatives, integrals and differential equations, and their applications. This course is intended to further build problem solving and critical thinking skills, and to demonstrate the importance of calculus in engineering practices.

**Credit unit(s):** 4.0  
**Prerequisites:** MAT 110  
**Equivalent course(s):** MAT 246

### MAT 111 – Calculus for Engineering Technologies

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</table>

1. Examine the derivative through the study of slopes and limits.  
2. Calculate derivatives of functions.  
3. Use first and second derivatives to graph functions.  
4. Analyze technical problems involving rates of change and optimization.  
5. Examine the indefinite and definite integral.  
6. Calculate integrals of functions.  
7. Analyze technical problems with integrations.  
8. Solve first-order differential equations.

### PLAR consultation

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

### PLAR assessment

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S PLAR contact person.

### Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**MAT 200 – Advanced Calculus and Statistical Analysis**

You will study series, statistical analysis and differential equations as they apply to engineering technology. Your studies will include series convergence series expansions and series calculus, advanced statistical and least-squares analysis and ordinary and partial differential equations.

**Credit unit(s):** 4.0  
**Prerequisites:** MAT 235, STAT 201  
**Equivalent course(s):** none

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<tr>
<th><strong>MAT 200 – Advanced Calculus and Statistical Analysis</strong></th>
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1. Perform tests of series convergence.
3. Use series expansions to approximate errors in measurements.
4. Apply estimation, testing and curve fitting for statistical parameters.
5. Apply statistical and matrix methods to the adjustment of survey observations.
6. Describe complex variables, spaces and subspaces.
7. Solve ordinary differential equations.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S PLAR contact person.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
### MAT 201 - Technical Mathematics and Integral Calculus for EDD Technology

You will build on your knowledge and skills developed in Technical Mathematics and Differential Calculus to become familiar with the basic definitions, fundamental concepts and uses of integral calculus as related to engineering design and drafting.

**Credit unit(s):** 4.0  
**Prerequisites:** MAT 226  
**Equivalent course(s):** none

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</table>

1. Apply fundamentals principles of integral calculus to algebraic curves using graphical and numerical approaches.
2. Determine indefinite and definite integrals by matching forms in a table of integrals.
3. Apply numerical methods to determine acceptable, approximate results for definite integrals.
4. Use integral calculus to find areas under and between curves.
5. Use integral calculus to find volume of a solid of revolution and length of an arc.
6. Solve problems involving surface area of an object, and centroid and moment of inertia of an area.
7. Use basic descriptive statistics.
8. Use basic probability concepts.

### PLAR consultation

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

### PLAR assessment

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and received specific directions.

### Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
MAT 221 – Differential Calculus

You will study analytical geometry, derivatives of algebraic and transcendental functions, integrals of algebraic functions and areas under curves. The application of the principles and techniques of differential and integral calculus to relevant problems in the instrumentation engineering field will be emphasized.

Credit unit(s): 4.0
Prerequisites: MAT 100
Equivalent course(s): MAT 246

**MATH 221 – Differential Calculus**

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1. Solve problems involving various trigonometric relationships.
2. Solve problems involving the straight line.
3. Solve problems involving the conic sections.
4. Analyze a function’s limit, continuity and discontinuity.
5. Analyze the derivative of a function.
6. Determine the derivatives of algebraic functions by rules.
7. Solve problems using differential calculus.
8. Determine the derivatives of transcendental functions by rules.
9. Analyze the integral of a function.
10. Determine the integrals of algebraic functions by rules.

PLAR consultation

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

PLAR assessment

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S PLAR contact person.

Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
MAT 226 – Technical Mathematics and Differential Calculus

You will learn how to solve technical problems using basic algebraic skills and differential calculus. You will become familiar with basic definitions and the fundamental concepts of mathematics and elementary derivatives.

Credit unit(s): 5.0
Prerequisites: MAT 101
Equivalent course(s): MAT 225

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

1. Perform matrix evaluations and operations.
2. Solve problems involving application of matrices.
4. Solve trigonometric equations.
5. Solve problems involving curves including the conic sections.
6. Determine limits for algebraic functions.
7. Calculate the derivatives of algebraic functions.
8. Solve problems involving applications of the derivative.
9. Calculate the derivatives of basic transcendental functions.

PLAR consultation
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PLAR assessment
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Resources
Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
MAT 229 – Integral Calculus for Instrumentation Engineering Technology

You will review the rules of the differentiation and integration of algebraic functions and apply them to linear motion, areas, volumes, moments, work, fluid pressure, average value, arc length and surface area. You will study the integration of transcendental functions, techniques of integration and their applications in areas of interest to instrumentation engineering.

Credit unit(s): 3.0  
Prerequisites: MAT 221  
Equivalent course(s): none

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<tr>
<th>MAT 229 – Integral Calculus for Instrumentation Engineering Technology</th>
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1. Determine the derivatives of algebraic and transcendental functions.
2. Determine the integrals of algebraic functions and transcendental functions.
3. Determine areas, volumes of rotation, arc length and surface area by using integral calculus.
4. Manipulate integrands using algebraic techniques.
5. Formulate and solve problems by using integral calculus.
6. Perform transformations on integrands.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and received specific directions.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**MAT 235 - Multivariable Calculus**

You will gain knowledge of multivariable calculus topics applicable to engineering technologies. You will study and apply partial differentiation and vector calculus in technical problems. You will integrate a variety of function types using advanced techniques, including multiple integration. This course is intended to build problem solving and critical thinking skills and to demonstrate the importance of calculus in engineering practices.

**Credit unit(s):** 4.0  
**Prerequisites:** MAT 103, MAT 112  
**Equivalent course(s):** none

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<th>MATH 235 - Multivariable Calculus</th>
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1. Perform partial differentiation of functions.  
2. Solve technical problems involving application of partial differentiation.  
3. Demonstrate vector calculus operators.  
4. Integrate functions analytically and numerically.  
5. Solve technical problems using integral calculus.  
6. Demonstrate multiple integration.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and received specific directions.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
MAT 246 – Analytical Geometry and Calculus

You will study analytical geometry, graphical and numerical methods for understanding of the concepts and operations of technical calculus, and problem solving using derivatives. You will also receive an introduction to differential and integral calculus.

**Credit unit(s):** 4.0  
**Prerequisites:** MAT 101 or MAT 120  
**Equivalent course(s):** MAT 220, MAT 246CE

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<th>MAT 246 – Analytical Geometry and Calculus</th>
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</table>

1. Construct graphs and equations of straight lines and conic section curves.
2. Solve practical problems using analytic geometry.
3. Determine derivatives of algebraic and transcendental functions.
5. Determine integrals of algebraic and transcendental functions.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the **A&S Department Head** at your nearest Sask Polytech campus.

**PLAR assessment**

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S **PLAR contact person**.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the **Sask Polytech Bookstore** is optional.
You will investigate first-order and second-order differential equations as models for mechanical, electrical, thermal, and fluid physical systems. You will learn how to formulate those models and solve them using Laplace transformation theory.

Credit unit(s): 3.0  
Prerequisites: MAT 229  
Equivalent course(s): none

1. Analyze differential equations as models of physical systems.
2. Construct traditional models of physical systems.
3. Develop the theory and techniques of Laplace transforms.
4. Formulate differential equation models for simple mechanical systems.
5. Formulate differential equation models for basic fluid and thermal systems.
7. Construct modern models of physical systems.
8. Determine basic transform identifies for open and closed loop systems.
9. Discuss universal parameters for second-order physical systems.

PLAR consultation
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PLAR assessment
PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and received specific directions.

Resources
Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**MATH 104 – Applied Mathematics**

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

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

| MATH 104 – Applied Mathematics |  
|-------------------------------|---|
| **Competent:** I can apply this outcome without direction or supervision | Competent |
| **Learning:** I am still learning skills and knowledge to apply this outcome | Learning |
| **None:** I have no knowledge or experience related to this outcome | None |

1. Solve practical problems involving arithmetic.  
2. Perform calculations with the imperial and metric systems of measurement.  
4. Solve practical problems involving geometry.  
5. Solve practical problems involving trigonometry.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the **A&S Department Head** at your nearest Sask Polytech campus.

**PLAR assessment**

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S **PLAR contact person**.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the **Sask Polytech Bookstore** is optional.
**MATH 115 - Calculus for Architectural Technologies**

You will gain knowledge of calculus topics applicable to architectural technology. You will study limits, differentiation and its applications, graphing with derivatives, and integration and its application. This course is intended to build problem solving and critical thinking skills, and to demonstrate the importance of calculus in engineering practice.

**Credit unit(s):** 4.0  
**Prerequisites:** none  
**Equivalent course(s):** CALC 281, MAT 220, MAT 222, MAT 246

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<th>MATH 115 - Calculus for Architectural Technologies</th>
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1. Apply powers and radicals in the study of technical problems.  
2. Examine functions analytically and graphically.  
3. Examine the concept of a derivative through the study of slopes and limits of functions.  
5. Use first and second derivatives to graph functions.  
6. Analyze technical problems using differentiation.  
7. Examine the concept of an integral through the study of antiderivatives and the Fundamental Theorem of Calculus.  
8. Calculate integrals of algebraic functions.  

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S PLAR contact person.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
MATH 116 - Mathematics

You will review the fundamentals of mathematics, algebra and trigonometry. Topics include fractions, decimals, percents, equations, ratio and proportion, metric, areas, volumes and basic trigonometry.

Credit unit(s): 2.0
Prerequisites: none
Equivalent course(s): MAT 120, MAT 122

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<th>MATH 116 - Mathematics</th>
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1. Use basic mathematics.
2. Use algebra.
3. Use measurement systems.
4. Calculate perimeter, area, and volume.
5. Use basic trigonometry.

PLAR consultation

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

PLAR assessment

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Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
MATH 125 – Welding Mathematics

You will learn math concepts commonly used in the Welding trade. After reviewing basic mathematics and basic equations, you will solve applied percent and proportion problems. You will perform imperial and SI conversions, and calculate the perimeter, area and volume of many common shapes, as well as use Pythagorean theorem. Trade applications include using protractors and steel tapes as well as calculating stretchouts and economical layout of various plates.

Credit unit(s): 2.0
Prerequisites: none
Equivalent course(s): MATH 106, MATH 130, MATH 170, MATH 187, MATH 299

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1. Use basic mathematics to solve trade-related problems.
2. Use basic equations to solve trade-related problems.
3. Practice imperial and metric measurement conversions.
4. Calculate perimeter, area and volume of common and irregular shapes.
5. Practice welding trade calculations.

PLAR consultation

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

PLAR assessment

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and received specific directions.

Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**MATH 127 – Trade Math**

You will learn how to use whole numbers, common and decimal fractions, percentages, ratio and proportions, angular measurements, length, area and volume measurements in the imperial and metric system. You will also convert imperial and metric measurements.

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

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<th><strong>MATH 127 – Trade Math</strong></th>
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1. Operate an electronic calculator.
2. Perform mathematical calculations used in the construction process.
3. Use metric and imperial systems of weights and measure.
4. Perform mathematical calculations used in carpentry.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and received specific directions.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
MATH 130 – Industrial Mathematics

You will review fractions, decimals and percentages. You will study basic algebra, ratio and proportion, linear measure, areas, volumes, capacities, interrelationships used in the metric and imperial systems, wage and time calculation, and financial calculations.

Credit unit(s): 2.0
Prerequisites: none
Equivalent course(s): MEAS 182

MATH 130 – Industrial Mathematics

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1. Use basic mathematics.
2. Use basic algebra.
3. Use appropriate units.
4. Calculate perimeter, area, and volume.
5. Perform trade calculations.

PLAR consultation

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

PLAR assessment

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Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
MATH 136 – Trade Mathematics

You will study basic mathematical concepts including whole numbers, decimals, fractions, percents, ratio and proportion, squares and roots. You will also study the International System of Units in calculations such as finding length, capacity, mass, area and volume.

Credit unit(s): 3.0
Prerequisites: none
Equivalent course(s): none

### MATH 136 – Trade Mathematics

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</table>

1. Use arithmetic.
2. Use equation fundamentals.
3. Use metric units.

PLAR consultation

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

PLAR assessment

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and received specific directions.

Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**MATH 139 – Business Mathematics**

You will deal with business problems involving ratios, proportions and percent. You will study the mathematics of merchandizing by examining discounts and markups. You will deal with the concept of the time value of money and how it is applied to both simple and compound interest. You will study ordinary annuities and specifically how they relate to mortgages.

**Credit unit(s):** 4.0  
**Prerequisites:** none  
**Equivalent course(s):** FIN 120, MATH 139CE

### MATH 139 – Business Mathematics

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</table>

1. **Apply ratio, proportion and percent to solve a variety of business problems.**
2. **Determine trade discount, cash discounts and mark-ups.**
3. **Perform exchange rate calculations.**
4. **Solve commercial problems involving simple interest.**
5. **Analyze problems involving the time value of money.**
6. **Solve commercial problems using compound interest.**
7. **Analyze ordinary annuities.**
8. **Examine debt retirement by using amortization.**
9. **Examine debt retirement by using sinking funds.**

### PLAR consultation

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### PLAR assessment

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S **PLAR contact person**.

### Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the **Sask Polytech Bookstore** is optional.
**MATH 158 – Mathematics**

You will study mathematics that is directly related to applications in the telecommunications networking field. You will perform operations with signed numbers and solve and manipulate equations. You will use powers of ten, engineering notation, and computer number systems. You will learn the fundamentals of Boolean algebra, basic trigonometry with vectors and phasors, the sine wave, and exponents and logarithms.

**Credit unit(s):** 3.0  
**Prerequisites:** none  
**Equivalent course(s):** MAT 122, MATH 384

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</table>

1. Use basic mathematics.
2. Use basic algebra and laws of exponents.
3. Use the binary and hexadecimal number systems.
4. Use Boolean algebra.
5. Apply trigonometry and complex numbers to phasor problems.
6. Apply sine and cosine graphs.
7. Apply exponents and logarithms.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

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**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
MATH 165 – Mathematics for Printers

You will acquire the basic mathematics skills required for entry level occupations in the graphics/print industry. Your studies will include basic mathematics, problem solving, and measurement systems.

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

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<tr>
<th>MATH 165 – Mathematics for Printers</th>
<th>Competent</th>
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1. Use basic mathematics for graphic arts.  
2. Use measurement systems.

PLAR consultation

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

PLAR assessment

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Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**MATH 167 – Applied Mathematics 2**

Building on the arithmetic and algebraic skills you developed in MATH 166 – Applied Mathematics 1 – you will apply trigonometry to vector problems, and solve systems of linear equations, quadratic equations and exponential and logarithmic equations. You will consider the use of functions and graphs of functions.

**Credit unit(s):** 3.0  
**Prerequisites:** MATH 166 or MATH 104  
**Equivalent course(s):** none

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<th>MATH 167 – Applied Mathematics 2</th>
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</table>

1. Calculate linear combinations of vectors.  
2. Examine functions of a single variable.  
3. Plot graphs of functions of a single variable.  
4. Solve quadratic equations by various methods.  
5. Examine exponential and logarithmic expressions.

**PLAR consultation**

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**PLAR assessment**

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and received specific directions.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**MATH 169 – Trade Mathematics**

You will learn mathematical concepts commonly used in your trade. After reviewing basic arithmetic and basic equations, you will solve various algebra problems as applied to your trade. You will perform imperial and metric conversions, and calculate the perimeter, area and volume of many common shapes, as well as use of Pythagorean theorem.

- **Credit unit(s):** 2.0
- **Prerequisites:** none
- **Equivalent course(s):** MATH 169CE, MATH 187

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<tr>
<th>MATH 169 – Trade Mathematics</th>
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</table>

1. Use arithmetic to solve trade-related problems.
2. Use measurement systems.
3. Solve trade-related equations and formulas.
4. Solve geometric problems.

**PLAR consultation**

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**PLAR assessment**

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and received specific directions.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**MATH 178 – Mathematics 1**

You will review the fundamental concepts of algebra. Your studies will focus on equations of various types, systems of linear equations, variation, properties of exponents logarithms, logarithmic and exponential equations and graphing. Biological and chemical applications will be used whenever possible.

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

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<th><strong>MATH 178 – Mathematics 1</strong></th>
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1. Use dimensional analysis.  
2. Use algebra.  
3. Solve linear and quadratic equations.  
4. Use logarithms.  
5. Use ratio and proportion.

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**PLAR consultation**

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**PLAR assessment**

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**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the **Sask Polytech Bookstore** is optional.
MATH 181 – Industrial Mechanics Certificate Trade Mathematics

You will review basic mathematics and the imperial and metric systems of measurement. You will be introduced to mathematical concepts that support applications in the industrial mechanics trade and your studies will focus on these various applications.

**Credit unit(s):** 4.0  
**Prerequisites:** none  
**Equivalent course(s):** none

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<tr>
<th>MATH 181 – Industrial Mechanics Certificate Trade Mathematics</th>
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1. Use basic mathematics.  
2. Use the imperial and metric systems of measurement.  
3. Use algebra.  
4. Use basic geometry and trigonometry.  
5. Perform trade calculations I.  
6. Perform trade calculations II.

**PLAR consultation**

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**PLAR assessment**

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**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the **Sask Polytech Bookstore** is optional.
MATH 182 – Technical Mathematics and Differential Calculus

You will review trigonometry, algebraic, logarithmic, exponential and trigonometric functions and their graphs, and trigonometric identities. You will also receive an introduction to differential calculus involving algebraic functions.

Credit unit(s): 4.0
Prerequisites: none
Equivalent course(s): MAT 122, MAT 226

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1. Use algebraic manipulations to solve equations.
2. Solve right and oblique triangles.
3. Use trigonometric identities and equations.
4. Solve equations involving exponential and logarithmic functions.
5. Calculate derivatives of algebraic functions.
6. Solve problems requiring the application of derivatives.

PLAR consultation

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

PLAR assessment

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Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**MATH 189 – Mathematics 1**

You will review the fundamental concepts of algebra and trigonometry. Your studies will focus on equations of various types, systems of linear equations, variation, properties of exponents and logarithms, logarithmic and exponential equations, graphing and trigonometry. Whenever possible, problem solving will be directly related to chemistry applications. You will also receive an introduction to calculus.

**Credit unit(s):** 4.0  
**Prerequisites:** none  
**Equivalent course(s):** none

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1. Use algebra.  
2. Solve linear and quadratic equations.  
4. Use logarithms.  
5. Use ratio and proportion.  
6. Use trigonometry to solve problems in applied sciences.  
7. Calculate derivatives.

**PLAR consultation**

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**PLAR assessment**

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**Resources**

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**MATH 193 – Technical Mathematics and Derivatives**

Your studies will review trigonometry, trigonometric identities and algebraic, logarithmic, exponential and trigonometry functions and their graphs. You will also receive an introduction to differential calculus of algebraic functions.

**Credit unit(s):** 5.0  
**Prerequisites:** none  
**Equivalent course(s):** MATH 182

<table>
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<th><strong>MATH 193 – Technical Mathematics and Derivatives</strong></th>
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1. Use algebraic manipulations to solve algebraic equations.  
2. Solve right and oblique triangles.  
3. Calculate radian measure, arc length, area and rotation.  
4. Calculate graphs of the trigonometric functions.  
5. Construct trigonometric identities and equations.  
6. Solve logarithmic and exponential functions.  
7. Calculate derivatives of algebraic functions.  
8. Solve problems requiring the application of derivatives.

**PLAR consultation**

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**PLAR assessment**

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**Resources**

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**MATH 199 - Mathematics**

This course reviews basic mathematics and the metric system of measurement. It introduces mathematical concepts that support applications in the refrigeration and air conditioning trade.

**Credit unit(s):** 4.0  
**Prerequisites:** none  
**Equivalent course(s):** none

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</table>

1. Use basic mathematics.  
2. Use metric units.  
3. Use basic algebra.  
4. Use basic geometry and trigonometry.  
5. Perform basic trade calculations.  
6. Perform advanced trade calculations.

**PLAR consultation**

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**Resources**

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MATH 278 – Mathematics 2

You will review fundamental concepts of trigonometry and be introduced to elementary topics in calculus, including limits and derivatives. Biological and chemical applications will be used whenever possible.

Credit unit(s): 2.0  
Prerequisites: MATH 178  
Equivalent course(s): none

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1. Solve problems in applied sciences using trigonometry.
2. Analyze limits and the behaviour of functions.
3. Solve problems in the applied sciences using derivatives.
4. Solve systems of equations using techniques from linear algebra.

PLAR consultation

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

PLAR assessment

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Resources

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**MATH 280 – Mathematics for Vet Technology**

You will review basic mathematical concepts such as ratio, proportion, fractions, decimals, percents and equations. You will also receive an introduction to logarithmic and exponential functions and graphing. Your studies will focus on units of measurement and dilution and solution calculations.

**Credit unit(s):** 3.0  
**Prerequisites:** none  
**Equivalent course(s):** none

<table>
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<th><strong>MATH 280 – Mathematics for Vet Technology</strong></th>
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</table>

1. Use basic mathematics.  
2. Use dimensional analysis to solve equations.  
3. Solve logarithm problems.  
4. Use graphs.  
5. Solve dilutions problems.  
6. Calculate solutions.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

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**Resources**

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**MATH 281 - Applied Mathematics**

You will learn basic mathematical skills needed to function effectively in the hospitality industry. You will apply these concepts to food quantity and cost calculations, and recipe yield conversions.

**Credit unit(s):** 1.0  
**Prerequisites:** none  
**Equivalent course(s):** MAT 101, MATH 121, MATH 281CE

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<th>MATH 281 – Applied Mathematics</th>
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1. Use basic mathematics to solve industry related problems.  
2. Use basic algebra to solve industry related problems.  
3. Convert units of measurement in the metric and imperial measurement systems.  
4. Perform calculations involving finance based problems.  
5. Perform calculations involving culinary based problems.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

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**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**MATH 289 – Mathematics 2**

You will focus on differential and integral calculus. You will learn differentiation of algebraic and transcendental functions, and applications of the derivative. You will study numerous methods of integration and selected applications of integration. You studies will also include an introduction to partial derivatives.

**Credit unit(s):** 4.0  
**Prerequisites:** MATH 189  
**Equivalent course(s):** none

<table>
<thead>
<tr>
<th>MATH 289 – Mathematics 2</th>
<th>Competent</th>
<th>Learning</th>
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</table>

1. Calculate derivatives of transcendental functions.  
2. Solve problems requiring the application of derivatives.  
3. Derive integrals of algebraic functions.  
5. Apply indefinite integration.  
6. Apply definite integration.  
7. Use advanced methods of integration.

**PLAR consultation**

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**PLAR assessment**

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**Resources**

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MATH 299 - Intermediate Algebra and Basic Trigonometry

You will review the fundamentals of algebra and trigonometry. The course content includes algebraic operations on equations, problems solving, quadratic equations, systems of linear equations, areas, volumes and basic trigonometry.

Credit unit(s): 2.0
Prerequisites: none
Equivalent course(s): MAT 120, MAT 122, MATH 182, TSYH 120

<table>
<thead>
<tr>
<th>MATH 299 - Intermediate Algebra and Basic Trigonometry</th>
<th>Competent</th>
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</table>

1. Use appropriate units.
2. Use algebra to simplify expressions.
4. Solve word problems.
5. Calculate perimeter, area and volume.
6. Use basic trigonometry.

PLAR consultation

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PLAR assessment

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Resources

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**MATH 389 – Mathematics**

You will study the mathematics, algebra and geometry needed to solve various aviation related mathematical and physics problems.

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<thead>
<tr>
<th>Credit unit(s):</th>
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<tbody>
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<td>Equivalent course(s):</td>
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</table>

1. Solve basic mathematical problems.
2. Solve algebraic equations.
3. Solve geometric and trigonometric problems.
4. Perform Mathematic calculations using approximations, estimates, and significant figures.
5. Examine various mental techniques used to calculate mathematical problems.
7. Solve various aviation related mathematical problems.

**PLAR consultation**

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**Resources**

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MATH 390 – Technical Mathematics for Engineering Calculations

You will receive advanced instruction and practice using algebra and geometry-trigonometry with emphasis on calculations used in thermodynamics and mechanics.

**Credit unit(s):** 1.0  
**Prerequisites:** MATH 299  
**Equivalent course(s):** CALC 181, MAT 246, MATH 182

<table>
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<tr>
<th>MATH 390 – Technical Mathematics for Engineering Calculations</th>
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<td>Competent</td>
<td>Learning</td>
<td>None</td>
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</table>

1. Use trigonometry to solve problems involving radian measures and oblique triangles.

2. Solve simple exponential logarithmic equations.

**PLAR consultation**

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**Resources**

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MICR 159 - Microbiology

You will study the various types of microorganisms, their characteristics and their role in the spread of infection. You will be introduced to the principles of health care epidemiology and the commonly used agents to control microbial growth. You will acquire knowledge of the major viral, bacterial and fungal diseases. Using group work, independent learning as well as laboratory activities you will study how the major diseases affect the immune system and the organs of the body. You will study the responsibilities and roles of health care workers in the chain of infection.

Credit unit(s): 1.0
Prerequisites: APHY 162 (concurrent)
Equivalent course(s): MICR 160

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</table>

1. Examine the foundations of the science of microbiology.
2. Examine the major principles of epidemiology and their uses in the public healthcare system.
3. Describe the pathogenesis of infectious diseases and its effects on the immune system.
4. Examine microbial growth and the major methods for preventing the spread of communicable diseases.
5. Examine the major viral, bacterial, and fungal diseases of humans.

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Resources

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**NAST 103 – Introduction to Indigenous Studies**

You will receive an introduction to the Indigenous cultural groups within Saskatchewan. You will learn about the colonization of Indigenous peoples by the Canadian state. Your studies will help you discuss current issues and explore possible solutions.

**Credit unit(s):** 1.0  
**Prerequisites:** none  
**Equivalent course(s):** none

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<tr>
<th><strong>NAST 103 – Introduction to Indigenous Studies</strong></th>
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1. Describe Indigenous nations of Saskatchewan.  
2. Explain how colonization has impacted Indigenous peoples.  
3. Discuss current issues and possible solutions.

**PLAR consultation**

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**PLAR assessment**

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**Resources**

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NUTR 201 – Nutrition

You will develop an understanding of the role of nutrition as it relates to general and oral health and disease. Through a variety of learning experiences which may include classroom instruction, group activities, practical exercises and independent learning, you will acquire knowledge of the standards and guidelines for planning and assessing the nutritional adequacy of diets. You will learn about the function and dietary sources of the major nutrients. You will examine the nutritional needs throughout the lifecycle as well as nutrition-related oral health issues.

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

<table>
<thead>
<tr>
<th>NUTR 201 – Nutrition</th>
<th>Competent</th>
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</table>

1. Apply principles of good nutrition and healthy eating to the assessment of dietary intakes.
2. Examine the role of fat in health and disease.
3. Examine the role of carbohydrate in health and disease.
4. Examine the role of dietary protein in health and disease.
5. Examine the role of vitamins, water and minerals in health and disease.
6. Examine strategies to achieve and maintain a healthy body weight.
7. Examine nutritional needs throughout the lifecycle including nutrition-related oral health issues

PLAR consultation

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PLAR assessment

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Resources

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**PHYS 102 - Applied Physics**

Your studies will focus on the basic physics principles of: vectors; Newton’s three laws of motion; work, energy, power, impulse and momentum; temperature, heat, and fluid mechanics.

**Credit unit(s):** 4.0  
**Prerequisites:** none  
**Equivalent course(s):** MECA 121

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<tr>
<th>PHYS 102 - Applied Physics</th>
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1. Solve problems of vector addition.
2. Solve problems involving Newton’s three laws of motion.
3. Solve problems involving work, energy, and power.
4. Solve problems involving impulse and momentum.
5. Solve problems involving temperature.
7. Solve problems involving static fluid mechanics.
8. Solve problems involving fluid in motion.
9. Solve problems involving electromotive force (EMF), current, resistance and power.
10. Solve problems involving direct current (DC) circuits.

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**PHYS 103 – Physics 1 for Geomatics**

You will study some principles of systematic thinking and problem solving as found in physics and encountered in the fields of Geomatics mapping and surveying. You will practice calculation management involving numbers, vectors and data as found in Newtonian mechanics, work and energy, temperature and thermal stress and strain, and electricity and magnetism.

**Credit unit(s):** 3.0  
**Prerequisites:** MAT 110  
**Equivalent course(s):** none

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### PHYS 103 – Physics 1 for Geomatics

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<tr>
<th>Competent</th>
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<tr>
<td><strong>1.</strong> Solve problems involving kinematics.</td>
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<td><strong>2.</strong> Apply Newton’s Laws of motion.</td>
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<td><strong>3.</strong> Solve problems involving work, energy and power.</td>
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<td><strong>4.</strong> Examine rotational kinematics and dynamics.</td>
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<td><strong>5.</strong> Apply the Universal Law of Gravitation.</td>
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<td><strong>6.</strong> Analyze heat and temperature.</td>
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**Resources**

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PHYS 104 – Physics for Engineering Design and Drafting Technology

You will study vector applications of Newton’s three laws and the conservation of momentum involving free-body and vector diagrams on coordinate reference frames. You will perform an experiment demonstrating Newton’s laws to determine the coefficient of friction between a moving object and its contact surface. You will also study the conservation of energy in the work, power and energy section, and the static and dynamic properties of fluids.

Credit unit(s): 3.0
Prerequisites: none
Equivalent course(s): none

<table>
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<tr>
<th>PHYS 104 – Physics for Engineering Design and Drafting Technology</th>
<th>Competent</th>
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<tr>
<td>1. Apply principles of computation.</td>
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<td>2. Apply methods of vector operations using trigonometry.</td>
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<td>4. Demonstrate Newton’s second law involving force and friction problems.</td>
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<td>5. Experiment with constantly accelerated motion to determine frictional coefficients between an object and its surface.</td>
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<td>6. Contrast work, power and energy conservation.</td>
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<td>7. Examine momentum vector conservation.</td>
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<td>8. Examine the laws of static fluids.</td>
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<td>9. Examine the laws of dynamic fluid flow.</td>
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PLAR assessment

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Resources

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**PHYS 105 – Physics**

Your studies will focus on solving certain physics problems using computational software. You will study vectors, translational and circular motion, work, energy and power, electric forces, electric fields and electric potential and magnetism.

**Credit unit(s):** 3.0  
**Prerequisites:** none  
**Equivalent course(s):** PHYS 121

<table>
<thead>
<tr>
<th>PHYS 105 – Physics</th>
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1. Apply calculating, documenting and graphing functions and features with computational software.  
2. Solve problems of vector addition.  
3. Solve problems involving motion.  
4. Solve problems involving work, energy and power.  
5. Solve problems involving electric forces, potentials and fields, and magnetism.

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**PHYS 120 – Physics 1**

You will study the principles of fluid mechanics, thermometry and calorimetry, thermal properties of matter and vector addition.

**Credit unit(s):** 3.0  
**Prerequisites:** none  
**Equivalent course(s):** PHYS 102

<table>
<thead>
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<th>PHYS 120 – Physics 1</th>
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1. Use knowledge of fluids at rest to analyze various situations.
2. Solve problems involving fluids in motion.
3. Perform vector analysis in one and two dimensions.
4. Relate the change in temperature to expansion.
5. Quantify the gain or loss of heat.
6. Calculate the loss or gain of heat due to convection, conduction and radiation.
7. Examine ideal gas properties in static and dynamic conditions.

**PLAR consultation**

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**Resources**

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PHYS 121 – Physics 1

Your studies will focus on the principles of vectors, translational and rotational equilibrium, torques, friction, translational motion, angular motion, work, energy, simple harmonic motion, wave motion, wave mechanics, sound, electric forces, electric fields and electric potential and magnetism.

**Credit unit(s):** 3.0  
**Prerequisites:** none  
**Equivalent course(s):** none

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1. Solve problems of vector addition.
2. Solve problems involving translational equilibrium.
3. Solve problems involving friction.
4. Solve problems involving rotational equilibrium.
5. Solve problems involving rigid body rotation.
6. Solve problems involving bodies undergoing acceleration.
7. Solve problems involving work, energy and power.
8. Solve problems involving electric forces.
9. Solve problems involving electric fields and potentials.
10. Solve problems involving semiconductor theory.

**PLAR consultation**

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**PHYS 185 – Physics**

You will study the principles of basic physics with emphasis on various aviation topics including motion and energy.

**Credit unit(s):** 3.0  
**Prerequisites:** none  
**Equivalent course(s):** none

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<th><strong>PHYS 185 – Physics</strong></th>
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1. Examine basic physics concepts.  
2. Examine physical properties of matter.  
3. Discuss physical properties of the atmosphere.  
4. Examine the gas laws.  
5. Discuss electrical energy concepts.  
6. Examine the concepts of dynamics.  
7. Examine basic aerodynamic concepts.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and have received specific directions.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**PHYS 200 – Physics 2 for Geomatics**

You will be introduced to basic concepts in gravity, light, optics and images that are relevant to applications in Geomatics. Some emphasis will be placed on calculation management and scientific documentation.

**Credit unit(s):** 3.0  
**Prerequisites:** PHYS 103  
**Co Requisites:** GEOM 202  
**Equivalent course(s):** none

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### PHYS 200 – Physics 2 for Geomatics

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</table>

1. Apply basic concepts and principles of physics of light.  
2. Apply geometric and physical concepts of optics.  
3. Apply basic principles of image formation.  
4. Apply Newton's Universal law of gravitation within Geomatics.

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**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the [A&S Department Head](#) at your nearest Sask Polytech campus.

**PLAR assessment**

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S [PLAR contact person](#).

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the [Sask Polytech Bookstore](#) is optional.
**PHYS 221 – Physics 2**

Your studies will focus on the principles of linear and curvilinear motion, accelerated motion, work, energy and power, translational and rotational equilibrium, torques, friction.

**Credit unit(s):** 2.0
**Prerequisites:** PHYS 120
**Equivalent course(s):** none

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</table>

1. Assess rectilinear and projectile motion.
2. Apply Newton’s 2nd Law of Motion.
3. Apply Newton’s 1st and 3rd Laws of Motion.
4. Apply the fundamental knowledge of friction to systems of accelerated non-accelerated motion.
5. Examine work, energy and power.
6. Apply the principles of thermodynamics.
7. Examine rotational motion.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and have received specific directions.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**PHYS 222 – Physics 2**

You will become familiar with magnetism, thermometry and calorimetry, the first and second laws of thermodynamics, linear and curvilinear motion, impulse and momentum, uniform circular motion, simple harmonic motion, waves and sound, and elasticity.

**Credit unit(s):** 3.0  
**Prerequisites:** PHYS 121  
**Equivalent course(s):** PHYS 225

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<th>PHYS 222 – Physics 2</th>
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1. Solve problems relating to magnetism and electromagnetism.  
2. Solve problems relating to temperature and expansion of materials.  
3. Solve problems relating to the quantity of heat.  
4. Solve problems relating to the transfer of heat.  
5. Solve problems relating to thermodynamics.  
6. Solve problems relating to rectilinear and projectile motion.  
7. Solve problems relating to impulse and momentum.  
8. Solve problems relating to uniform circular motion.  
9. Solve problems relating to elasticity.  
10. Solve problems involving simple harmonic motion.  
11. Solve problems involving waves and wave motion.  
12. Solve problems involving sound.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the **A&S Department Head** at your nearest Sask Polytech campus.

**PLAR assessment**

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and have received specific directions.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the **Sask Polytech Bookstore** is optional.
PHYS 227 – Physics

Your studies will focus on the basic principles of statics (including the concepts of vectors, forces and equilibrium in two dimensions) and properties of materials (including stress and strain, elasticity and other mechanical properties). The course concludes with a study of centroids and moments of inertia of cross-sections of structural members.

**Credit unit(s):** 3.0  
**Prerequisites:** none  
**Equivalent course(s):** SCAL 122

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</table>

1. Use significant figures, SI units and Imperial units in the manipulation of numerical data.
2. Solve problems involving equilibrium of rigid bodies.
3. Determine loadings applied to structures.
4. Solve problems involving normal stress and strain and/or shear stress and strain.
5. From a stress-strain diagram or numerical data, determine quantities relating to mechanical properties of materials such as yield strength, elastic limit and ultimate strength.
6. Determine the centroid, moment of inertia and radius of gyration of a simple or composite structural section.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S PLAR contact person.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**PHYS 228 – Physics: Light, Heat and Sound**

Your studies will focus on the fundamental principles of dynamics, light and illumination, electrical generation and distribution, heat production and transfer, fluid flow, vibration, waves and sound. The basic principles of physics in each of these areas will be studied in the context of building systems applications.

**Credit unit(s):** 3.0  
**Prerequisites:** none  
**Equivalent course(s):** none

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<tr>
<th><strong>PHYS 228 – Physics: Light, Heat and Sound</strong></th>
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1. Solve problems involving motion, force, work, energy and power.
2. Solve problems involving light, illumination, reflection and refraction.
3. Solve technical problems requiring the application of fundamental electrical theory.
4. Solve heat measurement and transfer problems.
5. Solve problems involving the physical relationships in elementary hydrostatics and fluid dynamics.
6. Solve problems involving vibration, waves and sound.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S PLAR contact person.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
PR 281 – Community Public Relations

You will receive instruction in basic public relations theory and practice including public relations writing and media relations. You will learn about the nature of publicity and use basic public relations tools such as news releases, interviews, press conferences, e-newsletters and social media.

Credit unit(s): 3.0
Prerequisites: none
Equivalent course(s): none

<table>
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<th>PR 281 – Community Public Relations</th>
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</table>

1. Explain the importance of creating a positive public image.
2. Describe the workings of the mass media.
3. Write news releases.
4. Use publicity tools.
5. Demonstrate media interview skills.
6. Apply design principles.
7. Design in-house publications.
8. Discuss the use of social media for marketing.
9. Prepare a public relations campaign.

PLAR consultation

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

PLAR assessment

Prepare for assessment after you have been approved and registered for PLAR and received specific directions. PLAR assessment may include one or more of the following methods:

1. Evidence file: Work samples including portfolio of publicity tools, video clips of media interviews, and/or public relation campaign proposals.

Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**PRNT 100 – Blueprint Reading**

You will study reading and interpreting blueprints.

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</table>

1. Interpret features in all views.
2. Identify required dimensions of features.
3. Interpret tolerances.
4. Plan jobs.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and received specific directions.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
PRNT 101 - Print Reading

Your studies in print reading will include: views, line types, types of drawings and basic welding symbols. You will practice basic drawing interpretation skills.

**Credit unit(s):** 1.0  
**Prerequisites:** none  
**Equivalent course(s):** none

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<th>PRNT 101 - Print Reading</th>
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1. Describe elements of drawings.
2. Describe types of prints and print format.
3. Describe dimensioning formats.
4. Describe types of joints and welds.
5. Describe elements of basic welding symbols.
6. Interpret fillet welding symbols.
7. Interpret groove weld symbols.
8. Interpret basic shop drawings.

**PLAR consultation**

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**PLAR assessment**

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S PLAR contact person.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
PRNT 104 – Print Reading

You will learn basic drawing skills and how to interpret a variety of drawings. Drawing interpretation is an essential skill because it is the language of the fabrication industry.

**Credit unit(s):** 6.0
**Prerequisites:** none
**Equivalent course(s):** none

### PRNT 104 – Print Reading

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1. Describe elements of drawings.
2. Describe types of prints and print format.
3. Describe types of joint and welds.
4. Interpret common welding symbols.
5. Interpret basic shop drawings (miscellaneous, structural, vessel, piping).
6. Develop basic shop drawings manually and in CAD.

### PLAR consultation

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### PLAR assessment

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and received specific directions.

### Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
PSYC 101 – Introduction to Psychology

You will learn the theories and concepts that form the foundation of psychology as a science. You will explore the study of human behaviour by examining concepts including: social psychology, perception, sensation, learning, memory, human development, motivation, emotion, states of consciousness, cognition, personality, intelligence, psychological disorders, and the relationship between health and stress.

Credit unit(s): 3.0
Prerequisites: none
Equivalent course(s): PSYC 101CE

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1. Describe psychology as a science.
2. Explain the processes of sensation and perception.
3. Discuss the concepts of learning.
4. Examine the concepts of memory.
5. Describe the concepts of consciousness and cognition.
6. Describe the stages of human development.
7. Describe motivation and emotion.
8. Examine the relationship between health and stress.
9. Discuss social psychology.
10. Describe personality theories and intelligence.
11. Discuss psychological disorders.

PLAR consultation

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

PLAR assessment

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Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**PSYC 102 - Introduction to Psychology 1**

You will learn about the history and evolution of psychology as a science. You will define and differentiate various research methods and theoretical perspectives. You will explore the study of human behaviour by examining concepts including: human development, personality, social psychology, psychological disorders and treatments, and the relationship between health and stress.

**Credit unit(s):** 3.0  
**Prerequisites:** none  
**Equivalent course(s):** none

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### PSYC 102 - Introduction to Psychology 1

**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

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<td>1.</td>
<td>Describe psychology as a science.</td>
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<td>2.</td>
<td>Examine the stages of human development.</td>
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<td>3.</td>
<td>Explain perspectives on personality.</td>
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<td>4.</td>
<td>Examine social psychology and the power of social influence.</td>
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<td>5.</td>
<td>Practice managing stress through understanding the relationship between stress, health, and coping.</td>
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<td>6.</td>
<td>Analyze the components of various psychological disorders.</td>
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<td>7.</td>
<td>Evaluate psychological and biological treatments.</td>
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### PLAR consultation

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

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### PLAR assessment

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S PLAR contact person.

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### Resources

Please ask the PLAR contact person to recommend any useful resources to prepare for assessment. Also, Look for related resources from online and other sources. Purchasing resources from the Saskatchewan Polytechnic Bookstore is optional.
PSYC 103 - Introduction to Psychology 2

You will learn about the history and evolution of psychology as a science. You will learn to differentiate between various research methods and theoretical perspectives. You will explore the study of human behaviour by examining concepts including: perception, sensation, states of consciousness, learning, memory, thinking, reasoning, language, intelligence and intelligence testing, motivation, emotion, and the biological and neurological foundations of behaviour.

Credit unit(s): 3.0
Prerequisites: PSYC 102
Equivalent course(s): none

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<th>PSYC 103 - Introduction to Psychology 2</th>
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1. Describe psychology as a science.
2. Examine the biological and neurological factors underlying behaviour.
3. Explain the processes of sensation and perception.
4. Analyze the concepts of consciousness.
5. Examine the different types of learning.
6. Apply the concepts of memory to real-world applications.
7. Analyze the components of cognition (thinking and reasoning) and language.
8. Examine the concepts of intelligence and validity of intelligence testing.

PLAR consultation

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

PLAR assessment

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S PLAR contact person.

Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
PSYC 160 – Psychology 1

Your studies will include the theories and concepts that form the foundation of psychology as a science. You will explore the study of human behaviour by examining concepts including: perception, sensation, learning, memory, intelligence, motivation, emotion, states of consciousness, personality, and the relationship between health and stress.

Credit unit(s): 2.0
Prerequisites: none
Equivalent course(s): PSYC 160CE

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<th>PSYC 160 – Psychology 1</th>
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<td>Competent</td>
<td>Learning</td>
<td>None</td>
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</table>

1. Describe psychology as a science.
2. Describe the processes of sensation and perception.
3. Explain the states of consciousness.
4. Examine the concept of learning in psychology.
5. Describe the concept of memory.
6. Describe the concept of intelligence.
7. Explain motivation and emotion.
8. Describe personality theories and assessment.

PLAR consultation

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

PLAR assessment

Prepare for assessment after you have been approved and registered for PLAR and received specific directions. PLAR assessment may include one or more of the following methods:

1. Exam: Successful completion of PSYC 160 PLAR Exam (90 multiple choice questions) with a 2-hour time limit.

Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**PSYC 184 – Introductory Psychology**

You will be provided with an introduction to the field of psychology. The course is structured to provide you with an increased awareness of human behavior. Included in the course is a general introduction to psychology including theories of learning, cognition, and motivation.

**Credit unit(s):** 3.0  
**Prerequisites:** none  
**Equivalent course(s):** PSYC 184CE, PSYC 188

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### PSYC 184 – Introductory Psychology

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</thead>
<tbody>
<tr>
<td>1. Describe the scientific elements of psychology.</td>
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<tr>
<td>2. Describe the concepts of sensation and perception.</td>
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<tr>
<td>3. Explain learning theories.</td>
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<td>4. Describe memory processes.</td>
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<tr>
<td>5. Describe the elements of cognition and language and their relationship to each other.</td>
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<td>6. Describe human development over the lifespan.</td>
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<td>7. Describe the role of motivation and emotion in human behaviour.</td>
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<td>8. Describe personality development as explained by various psychological perspectives.</td>
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</tbody>
</table>

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### PLAR consultation

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the **A&S Department Head** at your nearest Sask Polytech campus.

### PLAR assessment

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S **PLAR contact person**.

### Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the **Sask Polytech Bookstore** is optional.
RT 289 - Community Development

You will be introduced to the concept and models of community development. You will discuss the concept of social capital and explore asset mapping to help mobilize individuals and organizations to make connections and build capacity.

Credit unit(s): 3.0  
Prerequisites: none  
Equivalent course(s): none

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**RT 289 - Community Development**

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<td>I have no knowledge or experience related to this outcome</td>
</tr>
</tbody>
</table>

1. Describe the central concepts of community and community development.
2. Express the relevance, history, and importance of community development.
3. Define social capital and its importance.
4. Identify the roles, responsibilities, and skills necessary for a community developer.
5. Apply asset mapping.
6. Demonstrate the elements that impact Aboriginal Community Development.
7. Identify how community development occurs in international settings.

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**PLAR consultation**

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**PLAR assessment**

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S PLAR contact person.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**SOCI 100 – Introduction to Sociology**

You will examine how to practice sociology, and learn about the importance of culture and socialization. You will discuss social inequality in Canada, the power of mass media and the dualism of sex and gender. You will examine race, ethnicity, social control, and deviance. Your studies will also include a discussion of collective behaviour, social movements, and social change.

**Credit unit(s):** 3.0  
**Prerequisites:** none  
**Equivalent course(s):** SOCI 160

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<table>
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<tr>
<th><strong>SOCI 100 – Introduction to Sociology</strong></th>
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<td>I have no knowledge or experience related to this outcome</td>
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<tr>
<td>1. Examine how to practice sociology.</td>
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<td>2. Examine the importance of culture and socialization.</td>
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<tr>
<td>3. Examine social inequality in Canada.</td>
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<tr>
<td>4. Discuss mass media and the dualism of sex and gender.</td>
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<td>5. Examine race, ethnicity, social control and deviance.</td>
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<tr>
<td>6. Discuss collective behaviour, social movements and social change.</td>
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**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the **A&S Department Head** at your nearest Sask Polytech campus.

**PLAR assessment**

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S PLAR contact person.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the **Sask Polytech Bookstore** is optional.
**SOCI 160 – Foundations of Sociology**

Using your sociological imagination, you will examine how to practice sociology, and learn about the importance of culture, socialization, and the family. You will discuss social inequality in Canada, as well as explore the concepts of social control and deviance. Your studies will also include issues related to the power of mass media, the dualism of sex and gender, and race and ethnicity. You will have an opportunity to examine collective behavior, social movements, social change, and globalization.

**Credit unit(s):** 3.0  
**Prerequisites:** none  
**Equivalent course(s):** SOCI 160CE, SOCI 184

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</table>

1. Examine how to practice sociology.
2. Examine the importance of culture, socialization, and the family.
3. Examine social inequality in Canada, as well as the notions of social control and deviance.
4. Discuss mass media and the dualism of sex and gender.
5. Examine race and ethnicity.
6. Discuss collective behavior, social movements, social change, and globalization.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

Prepare for assessment after you have been approved and registered for PLAR and received specific directions. PLAR assessment may include one or more of the following methods:

1. **Comprehensive challenge exam**

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**SOCI 170 - Sociology**

You will be introduced to the field of sociology. The focus will be on patterns of social behavior and the relation of the individual to society. The social forces influencing behavior will also be examined. Topics include socialization, culture, family, deviance, economics, social change, population, and sociological perspectives.

**Credit unit(s):** 3.0  
**Prerequisites:** none  
**Equivalent course(s):** SOCI 282

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<th><strong>SOCI 170 - Sociology</strong></th>
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</table>

1. Describe the basic elements of sociology.
2. Describe the process and agents of socialization.
3. Describe the concepts of status and role as they relate to social structure.
4. Define deviance from the sociological perspectives.
5. Examine the concept of social stratification and its impact on Canadian society.
6. Discuss social change and the reasons why social change occurs.
7. Describe how communities are structured and organized.
8. Describe local area planning and development.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and have received specific directions.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**SOCL 171 – Culture and Diversity in Canadian Culture**

You will explore culture and diversity in Canada and the challenges they present. You will discuss the impacts of oppression, multiculturalism, immigration, social inequalities, and social justice at both personal and professional levels. You will discuss the historical and contemporary challenges of Indigenous peoples. You will also examine tools to foster social change and diversity competencies.

**Credit unit(s):** 3.0  
**Prerequisites:** none  
**Equivalent course(s):** none

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</table>

1. Examine the concepts of diversity and identity in the context of Canadian society.
2. Examine the concepts of oppression, inequality, and race.
3. Examine the roles of multiculturalism, religion, and gender in Canadian society.
4. Discuss the historical and contemporary challenges of Indigenous peoples.
5. Examine immigration to Canada.
6. Examine ways of practicing diversity competency on personal and professional levels.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the **A&S Department Head** at your nearest Sask Polytech campus.

**PLAR assessment**

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**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the **Sask Polytech Bookstore** is optional.
**SOCI 184 – Sociology A**

The course provides an introduction to the sociological perspective and addresses the study of people as social beings. You will examine culture, socialization processes and social inequality.

**Credit unit(s):** 3.0  
**Prerequisites:** none  
**Equivalent course(s):** SOCI 160, SOCI 184CE

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<thead>
<tr>
<th><strong>SOCI 184 – Sociology A</strong></th>
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<td><strong>None:</strong> I have no knowledge or experience related to this outcome</td>
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<tr>
<td>1. Describe the sociological perspective.</td>
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<tr>
<td>2. Describe sociological research, methodology and ethics.</td>
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<tr>
<td>3. Describe culture and socialization from a sociological perspective.</td>
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<tr>
<td>4. Describe social inequality in Canada.</td>
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<tr>
<td>5. Discuss gender and sexuality from a sociological perspective.</td>
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<tr>
<td>6. Describe race and racialization.</td>
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<tr>
<td>7. Describe families and family violence from a sociological perspective.</td>
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**PLAR consultation**

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**PLAR assessment**

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**Resources**

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**SOCI 185 – Sociology B**

Building on what you learned in SOCI 184, you will examine the importance of a sociological understanding in human service professions. You will study social institutions, social deviance, and issues facing mainstream and marginalized people in Canada.

**Credit unit(s):** 3.0  
**Prerequisites:** SOCI 184  
**Equivalent course(s):** SOCI 185CE, SOCI 260, SOCI 282

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<tr>
<th><strong>SOCI 185 – Sociology B</strong></th>
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1. Describe education from a sociological perspective.  
2. Describe religion from a sociological perspective.  
3. Discuss crime, law and regulation in Canada.  
4. Explain the role of mass media in Canada.  
5. Describe Canadian health policy, aging, and disabilities from a sociological perspective.  
6. Describe work and the political economy in Canada.  
7. Explain globalization and environmental sociology.

**PLAR consultation**

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**PLAR assessment**

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**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the **Sask Polytech Bookstore** is optional.
**SOCI 200 – Culture & Diversity in Health Sciences**

You will explore the cultural diversity of Canadian society. You will discuss immigration trends, cultural values and the implications to the provision of health services. Cultural safety in healthcare and the role of the health care professional will be discussed in context.

**Credit unit(s):** 3.0  
**Prerequisites:** none  
**Equivalent course(s):** NRSG 235, SOCI 261

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1. Explain the sociological perspective.
2. Discuss the cultural diversity of Canadian society and its social problems.
3. Describe the Canadian healthcare system.
4. Examine inequalities and health care.
5. Discuss cultural safety in nursing.
6. Analyze health practices using cultural safety.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and have received specific directions.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**SOCI 260 - Sociology 2**

This course examines changing family patterns in Canada, and analyzes how social factors influence family relationships. You will examine topics such as the functions and roles of families, changing definitions of the family, the development of intimate relationships, parenthood and child raising, how paid and unpaid work affect family life, divorce, and family violence.

**Credit unit(s):** 3.0  
**Prerequisites:** SOCI 160  
**Equivalent course(s):** FMLY 181

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### SOCI 260 - Sociology 2

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</table>

1. Examine the nature of the family and its beginnings.  
2. Examine the dynamics of the family life cycle.  
3. Examine the critical issues and changes affecting the family unit.

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**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the **A&S Department Head** at your nearest Sask Polytech campus.

**PLAR assessment**

Prepare for assessment after you have been approved and registered for PLAR and received specific directions. PLAR assessment may include one or more of the following methods:

1. **Evidence file:** Please request detailed instructions from the PLAR contact person or assessor.

   Evidence of prior learning for SOCI 260 may include documentation of other courses, seminars, workshops and conference presentations; reading in the field; work or volunteer experience in related areas, such as family service organizations, child care facilities, non-government organizations, and government organizations such as social services, education, or health care.

2. **Challenge exam:** A 90-minute exam with multiple choice and short answer questions.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the **Sask Polytech Bookstore** is optional.
**SOCI 261 – Sociology 3**

You will explore the cultural diversity of Canadian society. You will discuss immigration trends, cultural values and the implications to the provision of health services. Cultural safety in healthcare and the role of the health care professional will be discussed in context.

**Credit unit(s):** 2.0  
**Prerequisites:** SOCI 160  
**Equivalent course(s):** none

### SOCI 261 – Sociology B

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</table>

1. Explain the sociological perspective.  
2. Discuss the cultural diversity of Canadian society and its social problems.  
3. Describe the Canadian health care system.  
4. Examine inequalities in health care.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and have received specific directions.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**SOCI 300 – Culture and Diversity in Canadian Society**

You will explore culture and diversity in Canada. You will assess the impacts of oppression, multiculturalism, immigration, social inequalities, sex and gender, race, religion, and ability. You will explain the social, cultural and historical contexts of Indigenous populations. You will also evaluate tools to foster social change and diversity competencies.

**Credit unit(s):** 3.0  
**Prerequisites:** none  
**Equivalent course(s):** none

| **SOCI 300 – Culture and Diversity in Canadian Society** |  
| 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 |

1. Explore the concepts of diversity, oppression and privilege in the context of Canadian society.
2. Analyze social inequalities in Canada.
3. Assess the roles of religion, sex, and gender in Canadian society.
4. Explain the historical and contemporary experiences of Indigenous populations.
5. Analyze immigration and multiculturalism in Canada.
6. Evaluate ways of practicing diversity competency on personal and professional levels.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

PLAR assessment for this course may be available upon request. Prepare for assessment after you have been approved and registered for PLAR and received specific directions.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**SPSY 280 - Introductory Psychology**

The course provides an introduction to the field of psychology. You will develop an increased awareness of human behaviour. The course content includes a general introduction to psychology, learning, cognition, personality, motivation and personality disorders.

**Credit unit(s):** 2.0

**Prerequisites:** none

**Equivalent course(s):** PSYC 160, PSYC 184

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1. Describe the scientific elements of psychology.
2. Explain learning theories.
3. Describe the states of consciousness experienced by individuals.
4. Describe memory processes.
5. Describe the elements of cognition and intelligence.
6. Identify types of psychological disorders and their prevalence.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

PLAR assessment for this course may be available upon request. Prepare for assessment after you have been approved and registered for PLAR and received specific directions.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
STAT 100 – Introductory Statistics

You will learn statistical methods of analysis and inference including descriptive measures, frequency distributions, probability, confidence intervals, hypothesis testing for population means and proportions, analysis of variance, as well as correlation and regression techniques.

**Credit unit(s):** 3.0  
**Prerequisites:** none  
**Equivalent course(s):** none

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<th>STAT 100 – Introductory Statistics</th>
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<td><strong>Learning:</strong> I am still learning skills and knowledge to apply this outcome</td>
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</table>

1. Calculate Descriptive Statistics.
2. Calculate Probabilities.
4. Calculate Confidence Intervals.
5. Conduct Hypothesis Testing.
6. Use Non-Parametric Data in Hypothesis Testing.
7. Conduct Linear Regression Analysis.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S PLAR contact person.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**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  
**Prerequisites:** none  
**Equivalent course(s):** ACP 374, STAT 120CE

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<th>STAT 120 – Business Statistics</th>
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<td><strong>Learning:</strong></td>
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<td><strong>None:</strong></td>
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</table>

| 1. Discuss statistical terminology and procedures. |
| 2. Apply statistical methods for organizing and presenting data. |
| 3. Calculate measures of central tendency. |
| 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. |

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the **A&S Department Head** at your nearest Sask Polytech campus.

**PLAR assessment**

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S **PLAR contact person**.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the **Sask Polytech Bookstore** is optional.
STAT 122 – Introductory Statistics

You will be introduced to statistics for the purpose of summarizing and communicating scientific information. Your studies will include distributions of data summarized by central tendencies and patterns of dispersion. Data sets will be examined and students will prepare point estimates, confidence intervals and graphical representations of data (e.g., histograms).

Credit unit(s): 1.0
Prerequisites: none
Equivalent course(s): none

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<tr>
<td><strong>None:</strong> I have no knowledge or experience related to this outcome</td>
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</table>

1. Calculate measures of central tendency.
2. Calculate measures of dispersion.
3. Construct confidence intervals.
4. Conduct an exploratory data analysis.
5. Describe the principles of statistical analyses.

PLAR consultation

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

PLAR assessment

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and have received specific directions.

Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
## STAT 181 - Introductory Statistics and Computer Applications 1

You will be introduced to elementary probability, random variables and their distributions, frequency distributions, measures of location, variability and position, sampling theory, and several basic statistical methods that apply to bioscience and chemical technology problems. This introduction will also include using spreadsheets to assist in learning the statistical concepts.

**Credit unit(s):** 3.0  
**Prerequisites:** MATH 178 (concurrent)  
**Equivalent course(s):** none

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<td><strong>None:</strong></td>
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<tr>
<td>1. Apply the principles of introductory statistics in a scientific environment.</td>
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<td>2. Apply basic statistics on populations and probability distributions related to bioscience and chemical technology.</td>
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<tr>
<td>3. Apply random sampling techniques to general science and engineering studies.</td>
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<td>4. Apply distributions based on samples.</td>
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<td>5. Use regression and correlation analysis.</td>
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<tr>
<td>6. Use Excel to perform statistical computations.</td>
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### PLAR consultation

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

### PLAR assessment

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and have received specific directions.

### Resources

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**STAT 200 – Statistics for Technology**

You will gain knowledge of statistical concepts and techniques applicable to technologies. You will study descriptive statistics, measures of central tendency and dispersion, basic probability, 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):** 2.0  
**Prerequisites:** none  
**Equivalent course(s):** none

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<tr>
<th><strong>STAT 200 – Statistics for Technology</strong></th>
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</table>

1. Define statistical terminology and procedures.
2. Apply measures of central tendency to technical problems.
3. Apply measures of dispersion and the Central Limit Theorem to descriptive statistics.
4. Examine basic probability.
5. Analyze paired statistical data using simple linear regression.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S PLAR contact person.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**STAT 201 – Statistics for Engineering Technology**

You will gain knowledge of statistical concepts and techniques applicable to technologies. You will study descriptive statistics, measures of central tendency and dispersion, basic probability, 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):** 3.0  
**Prerequisites:** none  
**Equivalent course(s):** MAT 233, STAT 120, STAT 220

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<td>I have no knowledge or experience related to this outcome</td>
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</table>

1. Define statistical terminology and procedures.
2. Apply measures of central tendency to technical problems.
3. Apply measures of dispersion and the Central Limit theorem to descriptive statistics.
4. Examine basic probability.
5. Examine probability distributions of random variables.
6. Apply the Normal Probability Distribution and the Central Limit Theorem to inferential statistics.
7. Apply confidence intervals and tests of hypothesis to technical problems.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S PLAR contact person.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**STAT 202 – Introductory Statistics**

You will learn statistical methods of analysis and inference including descriptive measures, frequency distributions, probability, confidence intervals, hypothesis testing for population means and proportions, analysis of variance, as well as correlation and regression techniques.

**Credit unit(s):** 3.0  
**Prerequisites:** none  
**Equivalent course(s):** none

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<tr>
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</table>

1. Calculate descriptive statistics.  
2. Calculate probabilities.  
3. Examine probability distributions.  
4. Calculate confidence intervals.  
5. Conduct hypothesis testing.  
6. Use non-parametric data in hypothesis testing.  
7. Conduct linear regression analysis.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S PLAR contact person.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**STAT 260 - Statistics for Health Sciences**

You will learn statistical methods of analysis and inference including descriptive measures, frequency distributions, probability, confidence intervals, hypothesis testing, analysis of variance, and correlation and regression techniques. The emphasis in this course is on statistical applications, with problems chosen from the health sciences field.

**Credit unit(s):** 4.0  
**Prerequisites:** none  
**Equivalent course(s):** STAT 190, STAT 260CE

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</table>

1. Calculate descriptive statistics.  
2. Calculate probabilities.  
3. Examine probability distributions.  
4. Calculate confidence intervals.  
5. Conduct hypothesis testing.  
6. Use non-parametric data in hypothesis testing.  
7. Conduct linear regression analysis.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S PLAR contact person.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
STAT 281 – Statistics and Computer Applications

Building on the knowledge you gained in Introductory Statistics and Computer Applications (STAT 185), you will continue studying statistical and computing topics. You will be introduced to confidence intervals, tests of hypotheses, regression and correlation analysis, analysis of variance, experimental design, non-parametric tests, computer basics, application of spreadsheets to statistical applications and standard statistical programs.

**Credit unit(s):** 4.0  
**Prerequisites:** STAT 185  
**Equivalent course(s):** none

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1. Apply the statistical techniques introduced in STAT 185 to more advanced problem solving.
2. Apply hypothesis testing to problem solving in technology areas.
3. Apply the concepts and techniques of quality control.
4. Apply analysis of variance to problem solving in technology areas.
5. Use the techniques of experimental design.
6. Apply non-parametric methods to the general science areas and engineering areas.
7. Use Excel to perform statistical computations.
8. Use statistical programs (SPSS) to carry out statistical applications.
9. Use the windows environment for problem solving in statistics, chemistry and engineering areas.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and have received specific directions.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**STAT 300 – Statistics and Risk Analysis**

Your studies will focus on descriptive statistics and presentation techniques; probability theory and inferential statistics including applications based on simple random sampling, confidence intervals, hypotheses testing and regression-correlation analysis. You will also examine statistical methods related to risk management in the construction industry.

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<tr>
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<td>Equivalent course(s):</td>
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1. Apply fundamental elements for describing and displaying data.
2. Analyze averages for central and dispersion tendencies.
3. Apply basic probability laws.
4. Calculate discrete probability of binomial data.
5. Calculate continuous probability of normal data.
6. Apply the Central Limit Theorem.
7. Construct probability sampling distributions.
8. Construct estimation intervals for mean and proportion.
9. Construct hypothesis of testing for single mean and proportion.
10. Construct hypothesis of testing for difference of means and proportions.
11. Analyze paired data using linear regression and correlation analysis.
12. Explore elements of risk management in the construction industry.
13. Examine statistical methods used for risk assessments in the construction industry.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S PLAR contact person.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**STAT 600 – 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 distribution, 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):** 3.0  
**Prerequisites:** none  
**Equivalent course(s):** none

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1. Discuss statistical terminology and procedures.
2. Apply statistical methods for organizing and presenting data.
3. Calculate measures of central tendency.
5. Examine probability distributions of random variables.
6. Apply the Central Limit Theorem to business and financial problems.
7. Apply confidence intervals and tests of hypothesis to business and financial problems.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

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**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**TCOM 102 – Workplace Communications**

You will examine the employability skills required in the workplace. You will discuss the communication process, and practise effective interpersonal communication techniques and conflict resolution. You will use workplace writing and job search skills.

- **Credit unit(s):** 3.0
- **Prerequisites:** none
- **Equivalent course(s):** COMM 127, COMM 127CE, COMM 191, JOBS 190, JOBS 288, JOBS 290, TCOM 102CE, TCOM 120, TCOM 140, TMGT 180

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</table>

1. Examine fundamentals of workplace communication.
2. Discuss conflict resolution techniques.
3. Apply job-related interpersonal and oral communication strategies.
4. Apply workplace writing skills.
5. Use job search skills.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the **A&S Department Head** at your nearest Sask Polytech campus.

**PLAR assessment**

Prepare for assessment after you have been approved and registered for PLAR and received specific directions. PLAR assessment may include one or more of the following methods:

1. **Evidence file:** Please ask the PLAR contact person/assessor for detailed directions.

2. **Challenge exam:** Written exam and employer validation for learning outcomes #1-3 above.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the **Sask Polytech Bookstore** is optional.
**TCOM 103 – Technical Communications**

You will use research skills to find technical information and cite it correctly. You will conduct effective meetings and produce supporting documents. As well, you will discuss technical report purposes and formats, write short technical reports and present technical information.

**Credit unit(s):** 3.0  
**Prerequisites:** TCOM 102 or COM 170  
**Equivalent course(s):** COMM181, COMM 190, TCOM 103CE, TCOM 106, TCOM 123, TCOM 141, TCOM 190

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<td>Learning</td>
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</table>

1. Conduct research for a technical report.  
2. Use correct grammar and technical style.  
3. Create technical reports.  
4. Conduct meetings.  
5. Present technical information.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

Prepare for assessment after you have been approved and registered for PLAR and received specific directions. PLAR assessment may include one or more of the following methods:

1. **Evidence file:** Please ask the PLAR contact person/assessor for detailed directions.
2. **Employer validation letter:**
   - Learning outcome #4 above: Employer validation letter (Appendix A)  
   - Learning outcome #5 above: Employer validation letter (Appendix A) OR video recording (of oral presentation) and evidence file (visual aids used in presentation)

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**TCOM 104 – Applied Research in Technology**

You will develop a technical proposal and apply advanced research skills to a technical problem. You will use the technical problem-solving process in an applied research project and present your research findings in a written report and oral presentation.

**Credit unit(s):** 2.0  
**Prerequisites:** TCOM 103 or ENGL 101  
**Equivalent course(s):** COMM 115, COMM 182, COMM 290, TCOM 239

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1. Develop a technical proposal.  
2. Apply advanced research skills.  
3. Describe the technical problem-solving process.  
4. Employ the problem-solving process in an applied research project.  
5. Present research findings.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and have received specific directions.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**TCOM 105 – Communications for Technicians**

You will learn and practice written, oral and interpersonal communication for the workplace. You will apply these skills as team members and in short presentations. You will also develop effective job search strategies.

**Credit unit(s):** 2.0  
**Prerequisites:** none  
**Equivalent course(s):** COMM 127, TCOM 102, TCOM 105CE

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<th><strong>TCOM 105 – Communications for Technicians</strong></th>
<th>Competent</th>
<th>Learning</th>
<th>None</th>
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<tbody>
<tr>
<td><strong>Competent:</strong></td>
<td>I can apply this outcome without direction or supervision</td>
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<tr>
<td><strong>Learning:</strong></td>
<td>I am still learning skills and knowledge to apply this outcome</td>
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<tr>
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<td>I have no knowledge or experience related to this outcome</td>
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1. Explain the communications model.
2. Apply job-related communication strategies.
3. Produce job-related written communication.
4. Practice teamwork and presentation skills.
5. Practice job search skills.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

PLAR assessment for this course may be available upon request. Prepare for assessment if you are approved and registered for PLAR and have received specific directions.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
**TCOM 190 – Technical Communications**

You will be introduced to basic principles of effective technical writing in the computer industry. The necessity of following company standards for documentation will be emphasized. You will review grammar and style, and learn technical formats and report design. The production of technical documentation for a variety of user groups will also be emphasized.

**Credit unit(s):** 3.0  
**Prerequisites:** BCOM 120  
**Equivalent course(s):** BCOM 121, TCOM 103

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</table>

1. Identify documentation types required in the workplace.
2. Conduct situational analyses.
3. Plan documentation.
5. Perform revisions and editing of documentation.
6. Design technical documentation and reports.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the A&S Department Head at your nearest Sask Polytech campus.

**PLAR assessment**

Prepare for assessment after you have been approved and registered for PLAR and received specific directions. PLAR assessment may include one or more of the following methods:

1. **Challenge exam** for Learning outcome #1 above.

2. **Evidence file:** Please ask the PLAR contact person/assessor for more detailed directions.
   - Learning outcome #2 above: Sample of workplace audience/purpose profile OR a take-home assignment
   - Learning outcomes #3 & 4 above: Sample of outline and bibliography of technical report related to a computer project OR take home assignment
   - Learning outcome #5 above: Revision assignment
   - Learning outcome #6 above: Sample proposal or technical report related to a computer project OR take-home assignment

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the Sask Polytech Bookstore is optional.
TCOM 291 – Career Path Search

You will prepare a career path portfolio based on your accumulated skills, qualifications and accomplishments. You will prepare your resume and cover letter to target an IT job posting. In a simulated job interview, you will answer behavioural questions and demonstrate the use of a career path portfolio.

**Credit unit(s):** 1.0  
**Prerequisites:** none  
**Equivalent course(s):** JOBS 288, TCOM 295

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<tr>
<th>TCOM 291 – Career Path Search</th>
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1. Develop an E-portfolio.
2. Prepare a resume and cover letter.
3. Demonstrate interview skills.

**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the **A&S Department Head** at your nearest Sask Polytech campus.

**PLAR assessment**

Prepare for assessment after you have been approved and registered for PLAR and received specific directions. PLAR assessment may include one or more of the following methods:

1. **Evidence file:** Please ask the PLAR contact person/assessor for more detailed directions.

   The following samples of your previous work are required as evidence of your presentation skills for TCOM 291. If you cannot provide an acceptable sample of each item, a combination of assessment methods will be used in addition to the evidence file.
   - business letter requesting PLAR assessment
   - current targeted resume
   - letter of application targeted to job posting
   - industry portfolio of IT project work
   - validation letter from your employer(s) *(Appendix A)*

2. **Assignment:** The assessor may conduct a simulated behavioral interview with the candidate to assess interview skills

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the **Sask Polytech Bookstore** is optional.
**THER 182 - Thermodynamics 1**

You will receive an introduction to the field of thermodynamics. You will learn the quantities, units and principles involved in elementary thermodynamics.

**Credit unit(s):** 2.0  
**Prerequisites:** none  
**Equivalent course(s):** PHYS 224

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**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

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<th></th>
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<th>Learning</th>
<th>None</th>
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<tbody>
<tr>
<td>1.</td>
<td>Explain the basic principles of thermodynamics.</td>
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<tr>
<td>2.</td>
<td>Explain the thermodynamics of steam.</td>
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<tr>
<td>3.</td>
<td>Perform basic thermodynamic calculations.</td>
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<tr>
<td>4.</td>
<td>Discuss the basic concepts of matter.</td>
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**PLAR consultation**

First, discuss all PLAR with your program head. Ask your program head to sign your PLAR Application to confirm awareness of your A&S PLAR request. Then, for A&S PLAR approval and directions, contact the **A&S Department Head** at your nearest Sask Polytech campus.

**PLAR assessment**

If you qualify for PLAR, you may be asked to demonstrate your learning in one or more ways. Be prepared to clarify assessment directions during a consultation with the A&S **PLAR contact person**.

**Resources**

Ask the A&S PLAR contact person to recommend resources to prepare for PLAR assessment. Look for related resources from libraries, online, and other sources. Purchasing resources from the **Sask Polytech Bookstore** is optional.
Appendices
Appendix A: Employer validation letter

Employer validation letter

Prior Learning Assessment and Recognition

Instructions: The employer validation letter provides a statement of verification of relevant industry employment; the employer may be specifically required to verify that the PLAR candidate is the writer of/has produced the workplace documents/samples in the PLAR evidence file and that the PLAR candidate has successfully completed an employment interview. The employer validation letter must be printed on letterhead of your current employer and signed by the human resources department indicating the length of employment and working environment(s). A letter template has been provided for your use. Please copy the content below and fill in the fields as directed. The completed letter should be included with your PLAR evidence and submitted to the PLAR assessor.

Letter template (On employer’s business letterhead)

Date

To Whom It May Concern:

I have reviewed the employment records of ____________________________ and

Name of employee/candidate

can verify that the above candidate has been employed by ____________________________

Name of employer

for ____________________________.

Length of employment

I verify that the candidate is the writer of or has produced the workplace documents/work samples included in the PLAR evidence file.

Please contact me at ____________________________ or ____________________________ with any questions

or for additional information. Phone ____________________________ email ____________________________

Sincerely,

______________________________

Name ____________________________

Job title

______________________________

Signature