



# Medical Laboratory Technology Diploma

## PLAR Candidate Guide

Prior Learning Assessment and Recognition (PLAR)

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### Prior learning credit options at Saskatchewan Polytechnic

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See [Get Credit for What you Know](#) for important information about all options to get credit for prior learning at Sask Polytech, including PLAR, transfer credit, Canadian Armed Forces credit, and equivalency credit.

### How to navigate this document

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This document contains links to other document sections or webpages. To return to where you were from another section in this document, press the *ALT* key and *left arrow* key at the same time. To return to this webpage from another webpage, close the other webpage or click back on the browser tab for this document.

### Contents of this guide

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This guide contains the following specific PLAR information and tools for this program

- A. [PLAR fees](#)
- B. [PLAR eligibility and options](#)
- C. [Dates when PLAR assessment is available](#)
- D. [Special directions for this program](#)
- E. [PLAR contact person](#)
- F. [Self-rating course outlines](#)

## A. PLAR fees

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Fees for PLAR challenges are set to cover our costs for consultation, assessment, and related administrative tasks. PLAR fees are non-refundable and non-transferrable.

The PLAR fees policy is subject to change for each new academic year. Please see the **Cost** section on the [PLAR webpage](#) for current fee information.

## B. PLAR eligibility and options

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To be eligible for PLAR for courses in this program, you must first apply for admission and be accepted into the program. You must also consult with the [PLAR contact person](#) and be approved for PLAR assessment.

## C. Dates when PLAR assessment is available

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PLAR assessment for this program is available from Sept 1 to June 15 in each academic year.

**All PLAR assessments must be completed by June 15 of each academic year.**

## D. Special directions for this program

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1. **Review** the [PLAR process and FAQs](#) and the information in this guide.
2. **Self-rate** your learning for each course using the [Course Outlines](#) in this guide.
3. **Consult** with the [PLAR contact person](#) for PLAR approval. Be prepared to provide your resume, course self-ratings (see [section F](#)), and a partially completed [PLAR application](#). If you are approved for PLAR, the contact person will sign your PLAR application and explain next steps.
4. Apply for admission to the program. See [directions](#) for applying.
5. **Register** for PLAR at [Registration/Enrolment Services](#) once you have signed approval on your [PLAR Application Form](#). The PLAR fee will be added to your student account.
6. **Finalize** an assessment plan with your assigned assessor.
7. **Complete** assessment before your PLAR registration expires.

## E. PLAR contact person

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Contact one of the Program Heads below to arrange a consultation **after** you have read this guide and [general PLAR information](#) and rated yourself for each course (see next section). Consultation may be by phone, online, or in person. Be prepared to provide your resume, course self-ratings, and a partially completed [PLAR application](#). If agreement is reached to go ahead with PLAR, the contact person will sign approval on your PLAR application and explain the next steps. Admission to the program is required before you can register for PLAR.

**Jodi Thompson, Program Head**  
Saskatchewan Polytechnic, Saskatoon Campus  
Phone: 306 – 659 - 4411  
Email: [thompsonjos@saskpolytech.ca](mailto:thompsonjos@saskpolytech.ca)

## F. Self-rating course outlines

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Clicking on a course code below opens a page where you can rate yourself on the knowledge and skills assessed for PLAR credit. For Arts & Sciences courses, clicking on the course code opens another PLAR guide. The [PLAR contact person](#) for this program will refer you to another person to discuss PLAR for courses delivered by Arts & Sciences or another program/department.

COURSE CODE	COURSE NAME	Delivered by another department/program
<b>Semester 1 - Year 1</b>		
<a href="#">APHY 103</a>	Introduction to Anatomy and Physiology	
<a href="#">SOCI 101</a>	Cultural and Indigenous Awareness in Health Care	
<a href="#">ETHC 101</a>	Professionalism in Health Care	
<a href="#">INFC 180</a>	Infection Control and Safety	
<a href="#">MTER 180</a>	Medical Terminology	
<a href="#">PROC 180</a>	General Laboratory Practice	
<a href="#">PROC 185</a>	Laboratory Specimen Procurement	
<b>Semester 2 – Year 2</b>		
<a href="#">BIOL 104</a>	Molecular Diagnostics	
<a href="#">IMMU 183</a>	Immunology	
<a href="#">MICR 111</a>	Introduction to Microbiology	
<b>Semester 3 – Year 3</b>		

<b>COURSE CODE</b>	<b>COURSE NAME</b>	<b>Delivered by another department/program</b>
<a href="#">CLIN 120</a>	Clinical Specimen Procurement and Management	
<a href="#">PSYC 104</a>	Psychology of Health and Wellness Management	
<b>Semester 4 – Year 4</b>		
<a href="#">MICR 210</a>	Microbiology 1 (Theory)	
<b>Semester 5 – Year 5</b>		
<a href="#">IPE 100</a>	Interprofessional Education	
<a href="#">MICR 212</a>	Microbiology 2	
<a href="#">RSCH 280</a>	Introduction to Research	
<a href="#">CHEM 212</a>	Clinical Chemistry	
<a href="#">HEMA 213</a>	Hematology Pathology	
<b>Semester 6 – Year 6</b>		
<a href="#">EDUC 210</a>	Competency Development	
<a href="#">SIMU 202</a>	Hematology Practical Skills and Simulation	
<a href="#">SIMU 203</a>	Transfusion Medicine Practical Skills and Simulation	
<a href="#">SIMU 204</a>	Clinical Chemistry Practical Skills and Simulation	
<a href="#">SIMU 205</a>	Molecular Diagnostics Practical Skills and Simulation	
<b>Semester 7 &amp;8</b>		
<a href="#">CLIN 310</a>	Clinical Microbiology	
<a href="#">CLIN 311</a>	Clinical Hematology	
<a href="#">CLIN 312</a>	Clinical Transfusion Science	
<a href="#">CLIN 313</a>	Clinical Chemistry 4	
<a href="#">CLIN 314</a>	Clinical Histotechnology	

**APHY 103 - Introduction to 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  
**Corequisites:** none  
**Equivalent course(s):** none

<p><b>Use a checkmark (✓) to rate yourself as follows for each learning outcome</b></p> <p><b>Competent:</b> I can apply this outcome without direction or supervision.  <b>Learning:</b> I am still learning skills and knowledge to apply this outcome.  <b>None:</b> I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
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 structure and function 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 function of the circulatory system (cardiovascular and lymphatic) and respiratory system.			
8. Describe the structure and function of the digestive system.			
9. Describe the structure and function of the urinary and reproductive systems.			

**SOCI 101 - Cultural and Indigenous Awareness in Health Care**

You will be introduced to the sociological imagination. You will discuss the relationship between culture, colonization, and land. The sociology of science and technology will be explained. You will learn to recognize forms of oppression, diversity, and inclusion. Next you will explore the need for reconciliation and decolonization. Finally, you will develop a personal awareness plan and social action plan.

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

Use a checkmark (✓) to rate yourself as follows for each learning outcome		Competent	Learning	None
<b>Competent:</b>	I can apply this outcome without direction or supervision.			
<b>Learning:</b>	I am still learning skills and knowledge to apply this outcome.			
<b>None:</b>	I have no knowledge or experience related to this outcome.			
1.	Describe the sociological imagination.			
2.	Discuss the relationship between culture, colonization, and land.			
3.	Explain the sociology of science and technology.			
4.	Recognize forms of oppression, diversity, and inclusion.			
5.	Explore the need for reconciliation and decolonization.			
6.	Develop a personal awareness and social action plan.			

## ETHC 101 - Professionalism in Health Care

You will participate in an introduction to health care and health care delivery systems. Co-operative working relationships, employability skills, conflict management, critical thinking skills, communication, wellness, and stress management techniques will be emphasized throughout the course.

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

<p><b>Use a checkmark (✓) to rate yourself as follows for each learning outcome</b></p> <p><b>Competent:</b> I can apply this outcome without direction or supervision.  <b>Learning:</b> I am still learning skills and knowledge to apply this outcome.  <b>None:</b> I have no knowledge or experience related to this outcome.</p>	<b>Competent</b>	<b>Learning</b>	<b>None</b>
1. Describe health care and health care delivery.			
2. Interpret legal issues in health care.			
3. Describe standards of practice from regulatory and professional organizations.			
4. Demonstrate communication skills.			
5. Demonstrate communication approaches for various patient demographics.			
6. Demonstrate collaborative practice in the health care setting.			
7. Employ personal health and sustainable practices.			
8. Practice employability skills in health care.			

## INFC 180 - Infection Control and Safety

You will learn the transmission of microorganisms and blood-borne pathogens as well as how to protect yourself and others when working with patients and patient samples.

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

<p><b>Use a checkmark (✓) to rate yourself as follows for each learning outcome</b></p> <p><b>Competent:</b> I can apply this outcome without direction or supervision.  <b>Learning:</b> I am still learning skills and knowledge to apply this outcome.  <b>None:</b> I have no knowledge or experience related to this outcome.</p>	<b>Competent</b>	<b>Learning</b>	<b>None</b>
1. Demonstrate the proper use of personal protective equipment.			
2. Describe safety in the workplace.			
3. Describe the characteristics of microorganisms.			
4. Describe the interaction between microbe and host.			
5. Discuss the importance of immunization and screening in health care.			
6. Recognize sterilization and disinfection procedures as an essential part of infection control.			



## MTER 180 - Medical Terminology

You will learn to use the prefixes, suffixes and combining forms from which medical terms are derived. You will also learn to use medical abbreviations.

**Credit unit(s):** 1.0  
**Prerequisites:** none  
**Corequisites:** none  
**Equivalent course(s):** MED 161

<b>Use a checkmark (✓) to rate yourself as follows for each learning outcome</b>  <b>Competent:</b> I can apply this outcome without direction or supervision. <b>Learning:</b> I am still learning skills and knowledge to apply this outcome. <b>None:</b> I have no knowledge or experience related to this outcome.	<b>Competent</b>	<b>Learning</b>	<b>None</b>
1. Examine the history of medical terminology, basic components, medical prefixes, and suffixes.			
2. Relate combining forms to body systems.			
3. Analyze commonly used medical terms and medical abbreviations.			

**PROC 180 - General Laboratory Practice**

You will learn the theory and practice required to perform basic procedures in a medical laboratory. The course content includes laboratory solution preparation with related calculation and standard laboratory equipment such as: glassware, centrifuges, balances, pipettes, thermal equipment, and microscopes. You will continue to apply previously learned laboratory theory and skills. You will learn the theory and practice required to perform basic procedures in a medical laboratory. The course content includes laboratory solution preparation with related calculation and standard laboratory equipment such as: glassware, centrifuges, balances, pipettes, thermal equipment, and microscopes. You will continue to apply previously learned laboratory theory and skills.

**Credit unit(s):** 3.0  
**Prerequisites:** MTER 180 (Concurrent), INFC 180 (Concurrent)  
**Corequisites:** none  
**Equivalent course(s):** none

<p><b>Use a checkmark (✓) to rate yourself as follows for each learning outcome</b></p> <p><b>Competent:</b> I can apply this outcome without direction or supervision.  <b>Learning:</b> I am still learning skills and knowledge to apply this outcome.  <b>None:</b> I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Perform safe laboratory practices.			
2. Perform Brightfield microscopy.			
3. Use standard laboratory equipment.			
4. Demonstrate proper use of manual and semi-automated pipettes.			
5. Perform calculations necessary for reagent, dilution and solution preparation.			
6. Perform the preparation of laboratory reagent, dilutions and solutions.			
7. Apply additional principles of microscopy.			

**PROC 185 - Laboratory Specimen Procurement**

You will be introduced to the structure and function of the main medical laboratories in this course. Sample collection, handling, storage, and distribution will be covered, with an emphasis on the maintenance of specimen integrity.

**Credit unit(s):** 3.0  
**Prerequisites:** INFC 180 (concurrent), MTER 180 (concurrent)  
**Corequisites:** none  
**Equivalent course(s):** PROC 181, PROC 184

<p><b>Use a checkmark (✓) to rate yourself as follows for each learning outcome</b></p> <p><b>Competent:</b> I can apply this outcome without direction or supervision.  <b>Learning:</b> I am still learning skills and knowledge to apply this outcome.  <b>None:</b> I have no knowledge or experience related to this outcome.</p>	<b>Competent</b>	<b>Learning</b>	<b>None</b>
1. Describe the organization of a medical laboratory.			
2. Demonstrate the collection of blood samples by venipuncture.			
3. Explain the collection of blood samples by capillary puncture.			
4. Explain procedures for collecting and handling specimens other than blood.			
5. Complete the accessioning, centrifugation, and aliquoting of laboratory specimens.			
6. Describe the distribution, storage, and shipping of laboratory specimens.			

**BIOL 104 - Molecular Diagnostics**

You will discuss and describe the principles of molecular biology techniques and perform diagnostically applicable molecular techniques. You will evaluate and assess molecular results and techniques.

**Credit unit(s):** 3.0  
**Prerequisites:** APHY 103, PROC 180, PROC 185, QC 101  
**Corequisites:** none  
**Equivalent course(s):** none

<p><b>Use a checkmark (✓) to rate yourself as follows for each learning outcome</b></p> <p><b>Competent:</b> I can apply this outcome without direction or supervision.  <b>Learning:</b> I am still learning skills and knowledge to apply this outcome.  <b>None:</b> I have no knowledge or experience related to this outcome.</p>	<b>Competent</b>	<b>Learning</b>	<b>None</b>
1. Discuss the fundamentals of genetics.			
2. Describe the key molecules in the flow of genetic information.			
3. Evaluate the genetic code and its regulation and variants.			
4. Assess nucleic acid isolation, quantity and quality.			
5. Assess nucleic acid amplification.			
6. Evaluate molecular techniques.			
7. Discuss ethical considerations.			

## IMMU 183 - Immunology

In this course you will explore the immune system including both the innate and acquired defense mechanisms of the human body. You will learn the laboratory application of antigen-antibody reactions and examine the involvement of the immune system in various disorders.

**Credit unit(s):** 3.0  
**Prerequisites:** INFC 180  
**Corequisites:** none  
**Equivalent course(s):** none

<p><b>Use a checkmark (✓) to rate yourself as follows for each learning outcome</b></p> <p><b>Competent:</b> I can apply this outcome without direction or supervision.  <b>Learning:</b> I am still learning skills and knowledge to apply this outcome.  <b>None:</b> I have no knowledge or experience related to this outcome.</p>	<b>Competent</b>	<b>Learning</b>	<b>None</b>
1. Describe innate and adaptive immunity.			
2. Describe the structure and function of immunoglobulins.			
3. Describe the properties of antigens.			
4. Describe the complement system.			
5. Discuss antigen-antibody interactions.			
6. Discuss methods used to detect antigen-antibody reactions.			
7. Discuss hypersensitivity reactions.			
8. Discuss immunological disorders.			

**MICR 111 - Introduction to Microbiology**

You will learn the theory and skills required to prepare, culture, incubate, and stain clinical microbiology specimens.

**Credit unit(s):** 3.0  
**Prerequisites:** APHY 103(concurrent), INFC 180(concurrent), MTER 180(concurrent), PROC 180(concurrent)  
**Corequisites:** none  
**Equivalent course(s):** MICR 187, MICR 190

<p><b>Use a checkmark (✓) to rate yourself as follows for each learning outcome</b></p> <p><b>Competent:</b> I can apply this outcome without direction or supervision.  <b>Learning:</b> I am still learning skills and knowledge to apply this outcome.  <b>None:</b> I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Discuss the characteristics of microorganisms.			
2. Perform techniques for the preparation of culture media.			
3. Perform techniques for the preparation, culture and incubation of clinical microbiology specimens.			
4. Perform techniques for microbiological staining.			

## CLIN 120 - Clinical Specimen Procurement and Management

You will participate in a supervised clinical experience. Upon successfully completing the experience, you will be able to perform specimen procurement, data entry, receive and distribute specimens, plus prepare specimens for analysis.

**Credit unit(s):** 5.0  
**Prerequisites:** PROC 185(concurrent), ETHC 101(concurrent)  
**Corequisites:** none  
**Equivalent course(s):** CLIN 293, PRAC 110

<p><b>Use a checkmark (✓) to rate yourself as follows for each learning outcome</b></p> <p><b>Competent:</b> I can apply this outcome without direction or supervision.  <b>Learning:</b> I am still learning skills and knowledge to apply this outcome.  <b>None:</b> I have no knowledge or experience related to this outcome.</p>	<b>Competent</b>	<b>Learning</b>	<b>None</b>
1. Demonstrate professional practice in accordance with national accepted standards.			
2. Manage specimen receipt and data entry.			
3. Prepare specimens for analysis.			
4. Manage specimen distribution.			
5. Perform phlebotomy techniques.			

**PSYC 104 - Psychology of Health and Wellness Management**

In this course you will be introduced to theories of stress and holistic concepts of wellness honouring different cultural perspectives. You will use the Medicine Wheel as a tool to examine the influence of stress on physical, mental, spiritual, and emotional health. Finally, you will create a personal stress management plan with a goal of respecting the four elements of health.

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

<p><b>Use a checkmark (✓) to rate yourself as follows for each learning outcome</b></p> <p><b>Competent:</b> I can apply this outcome without direction or supervision.  <b>Learning:</b> I am still learning skills and knowledge to apply this outcome.  <b>None:</b> I have no knowledge or experience related to this outcome.</p>	<b>Competent</b>	<b>Learning</b>	<b>None</b>
1. Compare theories of stress and holistic concepts of wellness honouring different cultural perspectives.			
2. Examine the influence of stress on physical, mental, spiritual, and emotional health using the Medicine Wheel.			
3. Respect your personal stress management plan.			



**MICR 210 - Microbiology 1 (Theory)**

You will apply theory for identification and susceptibility testing of clinically significant microorganisms, including bacteria, fungi, parasites, and viruses.

**Credit unit(s):** 3.0  
**Prerequisites:** MICR 111, MICR 211(concurrent)  
**Corequisites:** none  
**Equivalent course(s):** none

<p><b>Use a checkmark (✓) to rate yourself as follows for each learning outcome</b></p> <p><b>Competent:</b> I can apply this outcome without direction or supervision.  <b>Learning:</b> I am still learning skills and knowledge to apply this outcome.  <b>None:</b> I have no knowledge or experience related to this outcome.</p>	<b>Competent</b>	<b>Learning</b>	<b>None</b>
1. Apply Gram stain theory for examination of microorganisms.			
2. Apply antimicrobial susceptibility testing for clinically significant microorganisms.			
3. Apply theory for identification and susceptibility of common Gram-positive organisms.			
4. Apply theory for identification and susceptibility of common Gram-negative organisms.			
5. Apply theory for identification and susceptibility of common anaerobic organisms.			
6. Apply theory for identification and susceptibility of uncommon microorganisms.			
7. Apply theory for identification and susceptibility of fungi.			
8. Apply theory for identification of parasites.			
9. Apply theory for identification of viruses.			

**IPE 100 - Interprofessional Education**

Upon completion of this course, you will be able to define Interprofessional Education (IPE) and practice. You will be able to describe the benefits, barriers, and enablers to IPE. You will be able to explain how IPE positively affects collaborative patient-centered care. You will participate in a variety of IPE activities that will highlight professional values and ethics, as a member of an interprofessional team.

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

Use a checkmark (✓) to rate yourself as follows for each learning outcome		Competent	Learning	None
<b>Competent:</b>	I can apply this outcome without direction or supervision.			
<b>Learning:</b>	I am still learning skills and knowledge to apply this outcome.			
<b>None:</b>	I have no knowledge or experience related to this outcome.			
1.	Discuss Interprofessional Education (IPE).			
2.	Describe IPE competency implementation.			
3.	Implement IPE strategies.			

## MICR 212 - Microbiology 2

You will perform identification and susceptibility testing for clinically significant microorganisms from various body systems.

**Credit unit(s):** 3.0  
**Prerequisites:** MICR 210, MICR 211  
**Corequisites:** none  
**Equivalent course(s):** none

Use a checkmark (✓) to rate yourself as follows for each learning outcome		Competent	Learning	None
<b>Competent:</b>	I can apply this outcome without direction or supervision.			
<b>Learning:</b>	I am still learning skills and knowledge to apply this outcome.			
<b>None:</b>	I have no knowledge or experience related to this outcome.			
1.	Perform direct examination of Gram-stained smears from clinical specimens.			
2.	Perform identification and susceptibility testing on urinary tract specimens.			
3.	Perform identification testing on gastrointestinal tract specimens.			
4.	Perform identification testing on genital tract specimens.			
5.	Perform identification and susceptibility testing on respiratory tract specimens.			
6.	Perform identification and susceptibility testing on skin and superficial wounds specimens.			
7.	Perform identification and susceptibility testing on cardiovascular and central nervous system specimens.			

**RSCH 280 - Introduction to Research**

You will receive an introduction to research concepts, methodologies, and issues in health care. You will demonstrate the practical application of research techniques.

**Credit unit(s):** 2.0  
**Prerequisites:** APHY 103, ETHC 101, MTER 180  
**Corequisites:** none  
**Equivalent course(s):** COMM 289

<p><b>Use a checkmark (✓) to rate yourself as follows for each learning outcome</b></p> <p><b>Competent:</b> I can apply this outcome without direction or supervision.  <b>Learning:</b> I am still learning skills and knowledge to apply this outcome.  <b>None:</b> I have no knowledge or experience related to this outcome.</p>	<b>Competent</b>	<b>Learning</b>	<b>None</b>
1. Employ various databases to search for research information.			
2. Demonstrate citing and referencing.			
3. Examine research concepts.			
4. Examine research data.			
5. Examine application of research to health care related issues.			

### CHEM 212 – Clinical Chemistry 3

This course will focus on the development of skills to produce and assess valid results in advanced areas of the medical laboratory including osmometry, chromatography, mass spectrometry, electrophoresis and immunoassay testing. You will apply previously learned laboratory theory and skills.

**Credit unit(s):** 3.0  
**Prerequisites:** CHEM 211  
**Corequisites:** none  
**Equivalent course(s):** none

<p><b>Use a checkmark (✓) to rate yourself as follows for each learning outcome</b></p> <p><b>Competent:</b> I can apply this outcome without direction or supervision.  <b>Learning:</b> I am still learning skills and knowledge to apply this outcome.  <b>None:</b> I have no knowledge or experience related to this outcome.</p>	<b>Competent</b>	<b>Learning</b>	<b>None</b>
1. Perform osmometry to assess clinical pathology.			
2. Describe toxic elements, trace elements and vitamins to assess clinical pathology.			
3. Perform chromatography analyses to assess clinical pathology.			
4. Describe mass spectrometry and its use in the laboratory.			
5. Describe protein analyses to assess clinical pathology.			
6. Perform protein electrophoresis to assess clinical pathology.			
7. Perform tumor marker and endocrine analyses to assess clinical pathology.			
8. Describe serology and allergen analyses to assess clinical pathology.			

## HEMA 213 – Hematology Pathology

You will study the pathophysiology of various blood diseases involving erythrocytes, leukocytes and thrombocytes. You will learn the laboratory tests used for differential diagnosis and correlate results to clinical conditions. You will apply this theory to assess laboratory tests for analytical discrepancies and result validity. You will continue to apply previously learned laboratory theory and skills.

**Credit unit(s):** 4.0  
**Prerequisites:** HEMA 210  
**Corequisites:** none  
**Equivalent course(s):** none

<p><b>Use a checkmark (✓) to rate yourself as follows for each learning outcome</b></p> <p><b>Competent:</b> I can apply this outcome without direction or supervision.  <b>Learning:</b> I am still learning skills and knowledge to apply this outcome.  <b>None:</b> I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Interpret a bone marrow evaluation.			
2. Describe hemoglobin and iron metabolism.			
3. Interpret laboratory results for hemolysis.			
4. Describe anemia.			
5. Assess microcytic, hypochromic anemias.			
6. Assess normocytic, normochromic anemias.			
7. Assess macrocytic anemias.			
8. Assess analytical techniques to differentiate hematological disorders.			
9. Assess malignant lymphoproliferative disorders.			
10. Assess malignant myeloproliferative and dysmyelopoietic disorders.			

## EDUC 210 - Competency Development

You will develop a study plan using learning activities and assignments to maintain and improve personal competence. A systematic review of curriculum content, the national competency profile and comprehensive practice exam questions will be used to identify specific areas for improvement.

**Credit unit(s):** 1.0

**Prerequisites:** BIOL 104, CHEM 211, CHEM 212, ETHC 101, HSTC 210, HEMA 212, HEMA 213, TRFS 202, TRFS 203, MICR 212, CLIN 120, CLIN 121, SIMU 201(concurrent), SIMU 202(concurrent), SIMU 203(concurrent), SIMU 204(concurrent), SIMU 205(concurrent), SIMU 206(concurrent)

**Corequisites:** none

**Equivalent course(s):** none

Use a checkmark (✓) to rate yourself as follows for each learning outcome		Competent	Learning	None
Competent:	I can apply this outcome without direction or supervision.			
<b>Learning:</b>	I am still learning skills and knowledge to apply this outcome.			
<b>None:</b>	I have no knowledge or experience related to this outcome.			
1.	Develop a personal study plan.			
2.	Relate Medical Laboratory Technology (MLT) curriculum to the Canadian Society for Medical Laboratory Science (CSMLS) General Medical Laboratory Competency Profile.			
3.	Demonstrate exam writing skills.			

### SIMU 201 - Microbiology Practical Skills and Simulation

You will participate in activities to improve laboratory skills, knowledge and professionalism required for clinical practicums. You will practice, build and demonstrate your abilities in Microbiology using assignments, practical labs, simulation and competency assessments. Upon successful completion, you will have enhanced laboratory skills including certain specific competencies that meet a nationally accepted standard.

**Credit unit(s):** 4.0

**Prerequisites:** BIOL 104, CHEM 211, CHEM 212, ETHC 101, HSTC 210, HEMA 212, HEMA 213, TRFS 202, TRFS 203, MICR 212, CLIN 120, CLIN 121

**Corequisites:** none

**Equivalent course(s):** none

Use a checkmark (✓) to rate yourself as follows for each learning outcome		Competent	Learning	None
Competent:	I can apply this outcome without direction or supervision.			
<b>Learning:</b>	I am still learning skills and knowledge to apply this outcome.			
<b>None:</b>	I have no knowledge or experience related to this outcome.			
1.	Demonstrate professional practice in accordance with national accepted standards.			
2.	Apply microscopic techniques for the identification of common clinically significant microorganisms.			
3.	Apply analytical techniques for the detection and identification of microorganisms in gastrointestinal tract specimens.			
4.	Apply analytical techniques for the detection and identification of microorganisms in genital tract specimens.			
5.	Differentiate pathogenic microorganisms and normal flora from various body sites.			
6.	Apply principles of quality management.			



## SIMU 202 - Hematology Practical Skills and Simulation

You will participate in activities to improve laboratory skills, knowledge and professionalism required for clinical practicums. You will practice, build and demonstrate your abilities in Hematology using assignments, practical labs, simulation and competency assessments. Upon successful completion, you will have enhanced laboratory skills including certain specific competencies that meet a nationally accepted standard.

**Credit unit(s):** 4.0

**Prerequisites:** BIOL 104, CHEM 211, CHEM 212, ETHC 101, HSTC 210, HEMA 212, HEMA 213, TRFS 202, TRFS 203, MICR 212, CLIN 120, CLIN 121

**Corequisites:** none

**Equivalent course(s):** none

Use a checkmark (✓) to rate yourself as follows for each learning outcome		Competent	Learning	None
Competent:	I can apply this outcome without direction or supervision.			
<b>Learning:</b>	I am still learning skills and knowledge to apply this outcome.			
<b>None:</b>	I have no knowledge or experience related to this outcome.			
1.	Demonstrate professional practice in accordance with national accepted standards.			
2.	Evaluate peripheral blood smear.			
3.	Evaluate manual cerebrospinal fluid (CSF) cell counts.			
4.	Evaluate fluid cytospin slides.			
5.	Evaluate bone marrow smears.			
6.	Apply principles of quality management.			

### SIMU 203 - Transfusion Medicine Practical Skills and Simulation

You will participate in activities to improve laboratory skills, knowledge and professionalism required for clinical practicums. You will practice, build and demonstrate your abilities in Transfusion Medicine using assignments, practical labs, simulation and competency assessments. Upon successful completion, you will have enhanced laboratory skills including certain specific competencies that meet a nationally accepted standard.

**Credit unit(s):** 2.0  
**Prerequisites:** BIOL 104, CHEM 211, CHEM 212, ETHC 101, HSTC 210, HEMA 212, HEMA 213, TRFS 202, TRFS 203, MICR 212, CLIN 120, CLIN 121  
**Corequisites:** none  
**Equivalent course(s):** none

Use a checkmark (✓) to rate yourself as follows for each learning outcome		Competent	Learning	None
Competent:	I can apply this outcome without direction or supervision.			
<b>Learning:</b>	I am still learning skills and knowledge to apply this outcome.			
<b>None:</b>	I have no knowledge or experience related to this outcome.			
1.	Demonstrate professional practice in accordance with national accepted standards.			
2.	Evaluate testing used to identify common red blood cell antigens and antibodies.			
3.	Assess testing and reporting of suspected adverse effects of transfusions.			
4.	Apply principles of quality management.			

### SIMU 204 - Clinical Chemistry Practical Skills and Simulation

You will participate in activities to improve laboratory skills, knowledge and professionalism required for clinical practicums. You will practice, build and demonstrate your abilities in chemistry using assignments, practical labs, simulation and competency assessments. Upon successful completion, you will have enhanced laboratory skills including certain specific competencies that meet a nationally accepted standard.

**Credit unit(s):** 1.0

**Prerequisites:** BIOL 104, CHEM 211, CHEM 212, ETHC 101, HSTC 210, HEMA 212, HEMA 213, TRFS 202, TRFS 203, MICR 212, CLIN 120, CLIN 121

**Corequisites:** none

**Equivalent course(s):** none

Use a checkmark (✓) to rate yourself as follows for each learning outcome		Competent	Learning	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.	Demonstrate professional practice in accordance with national accepted standards.			
2.	Apply principles of quality management.			
3.	Correlate laboratory results.			

### SIMU 205 - Molecular Diagnostics Practical Skills and Simulation

You will participate in activities to improve laboratory skills, knowledge and professionalism required for clinical practicums. You will practice, build and demonstrate your abilities in Molecular Biology using assignments, practical labs, simulation and competency assessments. Upon successful completion, you will have enhanced laboratory skills including certain specific competencies that meet a nationally accepted standard.

**Credit unit(s):** 1.0  
**Prerequisites:** BIOL 104, CHEM 211, CHEM 212, ETHC 101, HSTC 210, HEMA 212, HEMA 213, TRFS 202, TRFS 203, MICR 212, CLIN 120, CLIN 121  
**Corequisites:** none  
**Equivalent course(s):** none

Use a checkmark (✓) to rate yourself as follows for each learning outcome		Competent	Learning	None
Competent:	I can apply this outcome without direction or supervision.			
<b>Learning:</b>	I am still learning skills and knowledge to apply this outcome.			
<b>None:</b>	I have no knowledge or experience related to this outcome.			
1.	Demonstrate professional practice in accordance with national accepted standards.			
2.	Perform molecular diagnostics techniques.			
3.	Apply principles of quality management.			

### CLIN 310 - Clinical Microbiology

You will participate in a supervised clinical experience. Upon successfully completing this experience, you will be able to apply basic and specific skills for the identification and susceptibility of common clinical microorganisms for all body sites.

**Credit unit(s):** 12.0  
**Prerequisites:** none  
**Corequisites:** none  
**Equivalent course(s):** none

<p><b>Use a checkmark (✓) to rate yourself as follows for each learning outcome</b></p> <p><b>Competent:</b> I can apply this outcome without direction or supervision.  <b>Learning:</b> I am still learning skills and knowledge to apply this outcome.  <b>None:</b> I have no knowledge or experience related to this outcome.</p>	<b>Competent</b>	<b>Learning</b>	<b>None</b>
1. Demonstrate professional practice in accordance with national accepted standards.			
2. Apply analytical techniques required for the detection, identification, and susceptibility of microorganisms in urinary tract specimens.			
3. Apply analytical techniques required for the detection, identification, and susceptibility of microorganisms in respiratory tract specimens.			
4. Apply analytical techniques required for the detection, identification, and susceptibility of microorganisms in superficial wound specimens.			
5. Apply analytical techniques required for the detection, identification, and susceptibility of microorganisms in closed space specimens.			
6. Apply analytical techniques required for the detection, identification, and susceptibility of microorganisms in cardiovascular and central nervous system specimens.			
7. Operate automated identification and susceptibility systems in microbiology.			
8. Demonstrate maintenance of competency.			

### CLIN 311 - Clinical Hematology

You will participate in a supervised clinical experience. Upon successful completion, you will be able to perform analytical testing in a routine clinical hematology laboratory.

**Credit unit(s):** 11.0  
**Prerequisites:** SIMU 201, SIMU 202, SIMU 203, SIMU 204, SIMU 205, SIMU 206, EDUC 210, IPE 100  
**Corequisites:** none  
**Equivalent course(s):** none

<p><b>Use a checkmark (✓) to rate yourself as follows for each learning outcome</b></p> <p><b>Competent:</b> I can apply this outcome without direction or supervision.  <b>Learning:</b> I am still learning skills and knowledge to apply this outcome.  <b>None:</b> I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Demonstrate professional practice in accordance with national accepted standards.			
2. Differentiate common anemias.			
3. Differentiate leukocyte abnormalities.			
4. Manage testing and reporting on a particle cell counter.			
5. Manage testing and reporting on a hemostasis analyzer.			
6. Differentiate bleeding and thrombotic disorders.			
7. Demonstrate knowledge of flow cytometry principles.			
8. Demonstrate maintenance of competency.			

### CLIN 312 - Clinical Transfusion Science

You will participate in a supervised clinical experience. Upon successfully completing this experience, you will be able to perform analytical testing in a routine clinical transfusion science laboratory.

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

<p><b>Use a checkmark (✓) to rate yourself as follows for each learning outcome</b></p> <p><b>Competent:</b> I can apply this outcome without direction or supervision.  <b>Learning:</b> I am still learning skills and knowledge to apply this outcome.  <b>None:</b> I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Demonstrate professional practice in accordance with national accepted standards.			
2. Manage testing and reporting of group and antibody screens.			
3. Manage testing and reporting of advanced antibody investigations.			
4. Manage testing and reporting of compatibility analysis.			
5. Prepare blood products.			
6. Issue blood products.			
7. Manage testing and reporting of hemolytic disease of the fetus and newborn (HDFN).			
8. Manage the testing and reporting of direct antiglobulin tests.			
9. Demonstrate maintenance of competency.			

### CLIN 313 - Clinical Chemistry 4

You will participate in a supervised clinical experience. Upon successfully completing this experience, you will be able to apply your skills in analytical testing in a routine clinical chemistry laboratory.

**Credit unit(s):** 12.0  
**Prerequisites:** SIMU 201, SIMU 202, SIMU 203, SIMU 204, SIMU 205, SIMU 206, EDUC 210, IPE 100  
**Corequisites:** none  
**Equivalent course(s):** none

<p><b>Use a checkmark (✓) to rate yourself as follows for each learning outcome</b></p> <p><b>Competent:</b> I can apply this outcome without direction or supervision.  <b>Learning:</b> I am still learning skills and knowledge to apply this outcome.  <b>None:</b> I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Demonstrate professional practice in accordance with national accepted standards.			
2. Manage the testing and reporting of urinalysis.			
3. Manage the testing and reporting of chemical and immunology kit tests.			
4. Manage the testing and reporting of results measured by colorimetric methods.			
5. Manage the testing and reporting of results measured by rate methods.			
6. Manage the testing and reporting of electrolytes measured by ion selective electrodes.			
7. Manage the testing and reporting of results measured by immunoassay methods.			
8. Manage the testing and reporting of blood gases.			
9. Interpret post-analysis assessment for automated testing in clinical chemistry.			
10. Perform capillary blood collection.			
11. Demonstrate maintenance of competency.			



### CLIN 314 - Clinical Histotechnology

You will participate in a supervised clinical experience. Upon successfully completing this experience, you will be able to perform processing, cutting and staining procedures in a routine histotechnology laboratory.

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

<p><b>Use a checkmark (✓) to rate yourself as follows for each learning outcome</b></p> <p><b>Competent:</b> I can apply this outcome without direction or supervision.  <b>Learning:</b> I am still learning skills and knowledge to apply this outcome.  <b>None:</b> I have no knowledge or experience related to this outcome.</p>	Competent	Learning	None
1. Demonstrate professional practice in accordance with national accepted standards.			
2. Participate in tissue grossing preparation techniques.			
3. Perform bone decalcification.			
4. Perform tissue processing.			
5. Perform tissue embedding techniques.			
6. Perform microtomy techniques.			
7. Apply the physical and chemical principles of staining.			
8. Perform techniques to demonstrate cellular and non-cellular components in tissue.			
9. Perform coverslipping of histological slides.			
10. Demonstrate maintenance of competency.			