



Course Syllabus

Course title: Pre-Analytics & Laboratory Principles

Class section: MLAB - 139 - BX01A

Term: 2025W

Course credits: 3

Total hours: 75

Delivery method: Blended

Territorial Acknowledgement

Camosun College respectfully acknowledges that our campuses are situated on the territories of the Lək̓ʷəŋən (Songhees and Kosapsun) and W̱SÁNEĆ peoples. We honour their knowledge and welcome to all students who seek education here.

Instructor Details

Name: Tarah Craig

Email: craigt@camosun.ca

Instructor Statement

As your course instructor, I endeavour to provide an inclusive learning environment. However, if you experience barriers to learning in this course, do not hesitate to discuss them with me. Camosun College is committed to identifying and removing institutional and social barriers that prevent access and impede success.

Instructor Office Hours

Office:

Hours:

CHW 317

By Appointment

Course Description

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In this course, students examine the function and safe operation of laboratory and accessory analytical equipment found in the medical laboratory environment. Students explore technical and biological principles affecting the preparation and quality of samples. By focusing on chemical analysis and reagents, students will learn how and why blood products and other samples are collected, labelled, prepared, handled, stored, packaged and transported in the pre-analytical phase.

Prerequisites:

One of:

- C in Anatomy and Physiology 12
- C in Camosun Alternative

Course Learning Outcomes / Objectives

Upon successful completion of this course, the learner will be able to

1. Identify and describe the equipment (including accessories) and components commonly found in medical laboratory departments, and explain how they interrelate to produce a diagnostic analysis of specimens
2. Identify and demonstrate the skills necessary for proper collection, labelling, and preparation of specimens other than blood for distribution to clinical laboratory departments
3. Explain the influence of correct labeling and handling procedures, selecting appropriate collection tubes, order of draw, preparation, and aseptic technique on accurate results
4. Discuss problem solving and troubleshooting for analytical errors based on incorrect labeling and handling procedures, improper selection of collection tubes, incorrect order of draw, preparation errors, and poor aseptic technique

Course Competencies

Competencies:

- a) Knowledge of safe and effective use of laboratory equipment and devices commonly encountered in the laboratory and how they contribute to the diagnostic process. (CSMLS 1.02 - 1.04, 1.06, 1.09, 1.10, 2.09, BCSLS 2B, 3D, 3H)
- b) Prepare, label, and store chemicals, reagents, and stains demonstrating aseptic techniques, including appropriate disinfection of glassware. Knowledge of the importance of specimen collection with an emphasis on specimen integrity, priorities, sample volumes, and storage requirements as they relate to test results (CSMLS 2.08, 2.13 BCSLS 4.01, 4.02, 4.03)
- c) Knowledge of the proper instruction of patients for collection and preparation of urine and other nonblood specimens for analysis (CSMLS 1.05, 2.03, 2.09, 2.12, 3.01, 6.08, BCSLS 2B 4.03, 2C 1.01-1.05, 1.07-1.10, 1.13, 1.15, 3H)
- d) Employ knowledge of non-blood specimen procedures by practicing collection and preparation techniques used in microbiology (CSMLS 3.02, 3.03, 3.04, 4.01 BCSLS 2B 4.01, 4.02, 2C, 3E, 3F, 3H)

Course Materials

Title: CSMLS Laboratory Safety Guidelines

Authors: Canadian Society for Medical Laboratory Science

Publisher: CSMLS

Publication Date: 2020

Edition: 9th

Course Delivery Hours

ACTIVITY	HOURS / WEEK	# OF WEEKS	ACTIVITY HOURS
Lecture	3	15	45
Lab	2	15	30
		TOTAL HOURS:	75

Please be advised that Camosun College calculates an exam week within the semester

Course Schedule, Topics, and Associated Preparation / Activity

The following schedule and course components are subject to change with reasonable advance notice, as deemed appropriate by the instructor. Update to date schedule will be available on D2L.

Week or Date Range	Activity or Topic	Other Notes
Week 1	Lab: Icebreaker, Background Assessment Lecture: D2L Overview, Course Introduction to Equipment (Equipment Module), Overview of Safety Contract	Assigned: Background Assessment Assignment
Week 2	Lab: Sign Safety Contract, Equipment and Supplies Lecture: Centrifuging and Aliquoting	Assigned: Lab Equipment Infographic Assignment Assigned: Lab Equipment Quiz
Week 3	Lab: Centrifuging and Aliquoting Lecture: Urinalysis	
Week 4	Lab: Urinalysis, Urine Collection/Analysis/Storage Lecture: Non Blood Specimens	Assigned: Urine and Non Blood Specimen Quiz
Week 5	Lab: Non Blood Specimen Overview/Instruction Practices, Aliquoting and Centrifuging Practice Lecture: Competency Assessment #1 Overview, Review of Module 1 and 2, Introduction to Microbiology	Assigned: Patient Instruction Paired Assignment
Week 6	Lab: Lab Competency Assessment #1 Lecture: Microbiology, Micro Media and Plating	Assigned: Microbiology Research Assignment
Week 7	Reading Break - No Lecture or Labs	
Week 8	Lab: Microbiology Media, Plating, Microscope Use Lecture: Microbiology Non-Blood Specimens, Safety and Disinfection	
Week 9	Lab: Gram Staining, Streaking Practice, Control Slide Review Lecture: Blood Smears and Smear Making	Assigned: Microbiology Quiz
Week 10	Lab: Cross Over Lab with MLAB 117, MLAB 121 Lecture: Laboratory Math	

Week or Date Range	Activity or Topic	Other Notes
Week 11	Lab: Blood Smears and Smear Making, Slide Staining, Slide Review for Quality Lecture: Point of Care Testing (POCT)	
Week 12	Lab: Lab Math Worksheets, Point of Care Testing (POCT) Lecture: Automation, Competency Review	Assigned: Lab Math, Blood Smears, and POCT Quiz
Week 13	Lab: Lab Competency Assessment #2 Lecture: Pre-Analytical Case Studies, Final Exam Overview	
Week 14	Lab: Review Games and/or Open Lab Practice Lecture: Final Exam Review	
Week 15	Final Exam Week - Room/Date/Time To Be Determined	

Evaluation of Learning: Weighted

DESCRIPTION	WEIGHTING
Assignments (4)	25%
Quizzes (4)	25%
Competency (in lab) Assessments (2)	25%
Final Exam (1)	25%
TOTAL	100%

NOTE: Students must achieve at least a ("C+") or COM in all program courses.

Grade Reviews and Appeals

If you have a concern about a grade you have received for an evaluation, please come and see me as soon as possible. Refer to the **Grade Review and Appeals policy** for more information.

<http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf>

The Centre for Accessible Learning (CAL) is part of Camosun's Student Affairs unit. CAL coordinates academic accommodations and provides related programs and services to students with

documented disabilities.

Students who require academic accommodations are expected to request and arrange accommodations through CAL in a timely fashion. While we understand that not all accommodation needs are known to students at the beginning of a course, accommodations cannot be provided unless the proper process is followed through CAL and an accommodation letter has been released to the instructor. Students are responsible for providing CAL with the proper documentation prior to the beginning of a course.

Students registered with the Centre for Accessible Learning (CAL) who complete quizzes, tests, and exams with academic accommodations have booking procedures and deadlines with CAL where advanced notice is required.

Deadlines can be reviewed on the CAL exams page

<https://camosun.ca/services/academic-supports/accessible-learning/academic-accommodations-exams>

Please consult the CAL webpage for more information:

<https://camosun.ca/services/academic-supports/accessible-learning>

Artificial Intelligence: A Guide for Students

Generative Artificial Intelligence (GenAI) is an evolving technology that brings potential benefits but also substantial risks. While GenAI tools have the ability to transform how we work and learn, it is essential for the college community to adapt to these changes in a thoughtful and secure way.

When using GenAI tools, students should ensure proper citation and attribution guidelines are followed. This includes acknowledging AI assistance in reports, presentations, or any external communications. Clear citation helps build trust, ensures ethical use, and reduces the risk of misinformation or copyright issues.

For citation support visit the college's citation style guide.

<https://camosun.libguides.com/cite>

Artificial Intelligence: A Guide for Students

Visit the following website to learn about AI use in academic settings.

<https://camosun.libguides.com/artificialintelligence/home>

Course Guidelines & Expectations

Attendance

Students are expected to be on time; tardiness disrupts the class. When students are more than 5 minutes late (and/or the door is shut), they cannot enter the classroom until the class break period. Since lectures are online, please enter the ZOOM session without disruption and with volume muted.

If you choose not to or are unable to attend lecture it is your responsibility to acquire all information given during a class missed, incl. notes, hand-outs, assignments, changed exam dates etc.

Attendance in labs is mandatory. If a lab is going to be missed, you must notify your instructor by email at least one hour before the start of lab whenever possible. If a lab must be missed due to unforeseen circumstances or pre-arranged conditions, a make up lab can possibly be planned with the instructor. Please arrange with the instructor ahead of time so they are aware of your absence.

Missed exams cannot be made up except in case of documented illness (doctor's note required). The instructor must be informed that the students will be missing the exam before the exam start time.

Participation in Learning Activities

Student enrolled in Allied Health & Technologies Programs must participate in learning activities that include intimate and direct personal contact with their classmates during supervised practice.

Students are training to perform the duties of a healthcare professional. These duties usually require constant, close physical contact with patients and clients. Students may be required to simulate and perform these activities on one another during this course. Students may also be required to use special hygiene practices and protective gear to protect themselves from the transmission of communicable disease (like COVID-19). Risk associated with learning and performing the physical duties of a healthcare professional cannot be entirely eliminated by any amount of caution or protection. Students who refuse or incapable of participating and performing these activities due to personal or or medical limitations may only continue to participate in their course work when supported by officially registered accommodations or temporary medical advisory.

Written Assignments

Assignments are due by 23:59 on the assigned day unless otherwise specified. Unless otherwise directed by individual course outlines or assignment descriptions, assignments must be: word processed, double spaced, font meeting APA 7th edition guidelines, with a title page and reference list in APA 7th edition format. Student requiring an extension for the due date of an assignment must discuss with the instructor, *at least 24 hours before the due date*. Assignment submitted late without an approved extension will result in a 10% deduction in mark for each day late, and will not be accepted after 7 days post due date.

Student Assessment

Students must achieve a minimum of 65% in order to pass this course and use it as a prerequisite. Detailed information regarding assignments will be available on D2L. Complete all assignments on time and submit by the designated due dates. Unless otherwise stated, all assignments will be submitted via D2L.

The use of AI generated tools is permitted ONLY for brainstorming and organizing your ideas. Its use will not be tolerated when passed off as original writings for class assignments. Any assignment that can be proven to have used AI tools in an unauthorized way will be treated as plagiarism and given a zero. (Camosun Academic Policy: <http://camosun.ca/learn/calendar/current/pdf/academic-policies.pdf>)

In emergency circumstances, a student may arrange to take an assessment before or after the scheduled time if the student would otherwise be unable to complete the program or course. Exceptions due to emergency circumstances, such as unavoidable employment commitments, health problems, or unavoidable family crises, require the approval of the instructor. Holidays or scheduled flights are not considered to be emergencies. The student may be required to provide verification of the emergency circumstance.

School or Departmental Information

Students are required to read and are accountable for the College policies (outlined below) and practicum guidelines as described in the School of Health and Human Services (HHS) and program handbooks.

[CMLA Program Handbook](#)

Clinical and Practice Placements in HHS

<https://camosun.ca/programs-courses/school-health-and-human-services/hhs-programs/practicums>

School of Health and Human Services (HHS)

<https://camosun.ca/programs-courses/school-health-and-human-services/information-health-and-human-services-students-1#top>

HHS Program Handbooks

<https://camosun.ca/programs-courses/school-health-and-human-services/information-health-and-human-services-students-1#program>

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Student Responsibility

Enrolment at Camosun assumes that the student will become a responsible member of the College community. As such, each student will display a positive work ethic, assist in the preservation of College property, and assume responsibility for their education by researching academic requirements and policies; demonstrating courtesy and respect toward others; and respecting expectations concerning attendance, assignments, deadlines, and appointments.

College Policies

Academic Integrity

Students are expected to follow the college's [Academic Integrity policy](#), and be honest and ethical in all aspects of their studies. To help you understand these responsibilities review the online [Academic Integrity guide](#).

The college's [Academic Integrity policy and supporting documents](#) detail the process for addressing and resolving matters of academic misconduct.

Academic Accommodations for Students with Disabilities

If you have a documented disability and need accommodations contact the Centre for Accessible Learning (CAL). CAL will arrange the appropriate academic accommodations so you can participate in all academic activities. Visit the [CAL website](#) for more information

Academic Progress

The [Academic Progress policy](#) details how the college monitors students' academic progress and what steps are taken if a student is at risk of not meeting the college's academic progress standards.

Acceptable Technology Use

The [Acceptable Technology Use](#) policy outlines how students are expected to use college technology resources, this includes using your own devices on the college's network. The use of the college resources in a way that violates a person's right to study in an environment free of discrimination, harassment or sexual violation is prohibited.

Course Withdrawals Policy

For details about course withdrawal see the [Course Withdrawals policy](#). Be aware of the [deadlines for fees, course drop dates, and tuition refunds](#).

Grading Policy

To learn more about grading see the [Grading Policy](#).

Grade Review and Appeals

The process to request a review of grades is outlined in the [Grade Review and Appeals policy](#).

Medical / Compassionate Withdrawals

If you have experienced a serious health or personal issue, you may be eligible for a [medical/compassionate withdrawal](#). The [Medical / Compassionate Withdrawal Request form](#) outlines what is required.

Sexual Violence

If you have experienced sexual violence on or off campus, you can get support from the Office of Student Support. The Office of Student Support is a safe and private place to talk about what supports are available and your options for next steps. Visit the [sexual violence support and education site](#) to learn more or email oss@camosun.ca or phone: 250-370-3046 or 250-370-3841.

Student Misconduct (Non-Academic)

Camosun expects students to conduct themselves in a manner that contributes to a positive, supportive, and safe learning environment. Review the [Student Misconduct Policy](#) to understand the college's expectations of conduct.

Looking for other policies? See [Camosun College Policies and Directives](#)

Services and Supports

Services are free and available to all students.

Academic Supports Centre for Accessible Learning English, Math and Science Help Centres Library Writing Centre & Learning Skills	Enrollment Supports Academic Advising Financial Aid and Awards Registration Tuition and Fees
Health and Wellness Counseling Fitness and Recreation Office of Student Support	Applied learning Co-operative Education and Career Services Makerspace

The [Centre for Indigenous Education Centre and Community Connections](#) provides cultural and academic supports for Indigenous students.

[Camosun International](#) provides supports to international students.

[The Ombudsperson](#) provides an impartial, independent service to ensure students are treated fairly. The service is a safe place for students to voice and clarify concerns and complaints.

If you have a mental health concern, contact Counselling. Counselling sessions are available at both campuses during business hours. If you need urgent support after-hours, contact the Vancouver Island Crisis Line at 1-888-494-3888 or call 911.

Changes to this Syllabus

Every effort has been made to ensure that information in this syllabus is accurate at the time of publication. The College reserves the right to change the course content or schedule. When changes are necessary the instructor will give clear and timely notice.