



**MLAB 139 Pre-Analytics & Lab Principles**  
**Fall 2019**

**COURSE OUTLINE**

---

The course description is available on the web:  
<http://camosun.ca/learn/calendar/current/web/mlab.html#mlab139>

- (a) **Instructor** Sharon Duggan  
(b) **Office hours** Tuesdays 1630-1720  
(c) **Location** Room 317 Desk #101  
(d) **Phone** (250) 370-3000 ext. 4766      **Alternative:** [Click or tap here to enter text.](#)  
(e) **E-mail** DugganS@camosun.bc.ca  
(f) **Website** [Click or tap here to enter text.](#)

**2. Intended Learning Outcomes**

Upon successful completion of this course, a student will be able to:

- a) 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.
- b) identify and demonstrate the skills necessary for proper collection, labelling, and preparation of specimens other than blood for distribution to clinical laboratory departments.
- c) explain the influence of correct labeling and handling procedures, selecting appropriate collection tubes, order of draw, preparation, and aseptic technique on accurate results.
- d) 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.

**3. Required Materials**

Textbook: Warekois & Robinson. (2015) Phlebotomy: Work text and Procedure Manual 4th Ed.

#### 4. Course Content and Schedule

Week	Topic
1	<ul style="list-style-type: none"> <li>• Safe use of Laboratory equipment and supplies including ergonomic considerations</li> <li>• The relevance of equipment for obtaining specimen results and transporting</li> <li>• Infection control and equipment</li> <li>• How to sterilize and safely use devices and equipment in the lab.</li> <li>• Tour of the biology lab (safety shower, eye wash stations and fume hoods, pH meter, balance and autoclave)</li> </ul>
2	<ul style="list-style-type: none"> <li>• <b>Quiz #1</b></li> <li>• Aliquot and aseptic technique, operation of a centrifuge</li> <li>• Lab: Practice aliquot technique in conjunction with the centrifuge</li> <li>• Lab: Practice use of the urine safety pipetting device</li> </ul>
3	<ul style="list-style-type: none"> <li>• Protocols and procedures for the collection, storage and transport of urine specimens including 24 hour urines.</li> <li>• Lab: patient instruction, collection and storage of urine</li> </ul>
4	<ul style="list-style-type: none"> <li>• <b>Quiz #2</b></li> <li>• The importance of proper specimen labelling, selecting and handling of the correct vacutainers for common chemistry &amp; hematology tests</li> <li>• Practice lab with a focus on identifying appropriate containers, knowing order of draw and proper labelling and handling</li> </ul>
5	<ul style="list-style-type: none"> <li>• The significance of the order of draw for blood collection in chemistry and hematology. BD rep presentation.</li> <li>• Time sensitive collections for chemistry and hematology, i.e. coagulation studies, glucose tolerance testing</li> <li>• Lab: Timed collections</li> <li>• <b>Reflection Assignment #1</b></li> </ul>
6	<ul style="list-style-type: none"> <li>• Preparation techniques for chemistry, microbiology and cytology non-blood specimens</li> <li>• Lab on techniques for non-blood specimen handling for microbiology and cytology</li> </ul>
7	<ul style="list-style-type: none"> <li>• <b>MIDTERM</b></li> <li>• Lab on patient instruction to include stools, skin scrapings, pinworm</li> </ul>
8	<ul style="list-style-type: none"> <li>• Inoculation techniques for microbiology specimens</li> <li>• Types of culture media</li> <li>• Related equipment</li> <li>• Lab for inoculating media</li> </ul>
9	<ul style="list-style-type: none"> <li>• Basic laboratory math</li> <li>• Types of stains used in Hematology, microbiology and cytology</li> <li>• Lab on the preparation of stains and making slides. Disinfection of glassware and proper disposal/storage of chemicals and biological material</li> </ul>

Week	Topic
10	<ul style="list-style-type: none"> <li>Lecture on Quality Management, Quality Controls, standards and documentation</li> <li>Blood and body fluid exposure, lab incident reporting and follow up</li> <li>Lab: Prepares and runs quality control</li> <li>Lab group exercise to identify any process in the laboratory which may need improvement in order to maintain quality</li> </ul>
11	<ul style="list-style-type: none"> <li>Lecture on implementing knowledge of all pre-analytical procedures to unusual case based scenarios, including ergonomic considerations</li> <li>Lab on trouble shooting unusual case based scenarios and documentation of corrective actions</li> <li><b>Reflection Assignment #2</b></li> </ul>
12	<ul style="list-style-type: none"> <li><b>Quiz #3</b></li> <li>Lecture on the importance of labeling reagents and secondary containers utilizing SDS</li> <li>Lab treasure hunt for SDS</li> </ul>
13	<ul style="list-style-type: none"> <li>Final Review</li> </ul>
14	<ul style="list-style-type: none"> <li><b>FINAL EXAM</b></li> </ul>

Quiz #1	5 %
Quiz #2	5 %
Quiz #3	5 %
Reflection Assignments	20%
Midterm	30 %
Final Exam	35 %
<b>TOTAL</b>	<b>100%</b>

## 5. Basis of Student Assessment (Weighting)

(Should be directly linked to learning outcomes.)

- (a) Assignments
- (b) Quizzes
- (c) Exams
- (d) Other (e.g. Project, Attendance, Group Work)

## 6. Grading System

- Standard Grading System (GPA)
- Competency Based Grading System

## 7. Recommended Materials to Assist Students to Succeed Throughout the Course

Click or tap here to enter text.

## 8. College Supports, Services and Policies

### Immediate, Urgent, or Emergency Support



If you or someone you know requires immediate, urgent, or emergency support (e.g., illness, injury, thoughts of suicide, sexual assault, etc.), **SEEK HELP**. Resource contacts:

<http://camosun.ca/about/mental-health/emergency.html> or  
<http://camosun.ca/services/sexual-violence/get-support.html#urgent>

### College Services

Camosun offers a variety of health and academic support services, including counselling, dental, centre for accessibility, help centre, learning skills, sexual violence support & education, library, and writing centre. For more information on each of these services, visit Student Services at <http://camosun.ca/services>

### College Policies

Policies are available on the College website at <http://camosun.ca/about/policies>. Camosun strives to provide clear, transparent, and easily accessible policies that exemplify the college's commitment to life-changing learning. It is the student's responsibility to become familiar with college policies.

Education and academic policies include, but are not limited to, [Academic Progress](#), [Admission](#), [Course Withdrawals](#), [Grading](#), [Involuntary Health and Safety Leave of Absence](#), [Prior Learning Assessment](#), [Medical/Compassionate Withdrawals](#), [Sexual Violence and Misconduct](#), [Standards for Awarding Credentials](#), [Student Ancillary Fees](#), [Student Appeals](#), and [Student Penalties and Fines](#).

### Student Conduct Policy

The [Student Conduct Policy](#) provides clear expectations of appropriate academic and non-academic student conduct and establishes processes for resolution of conduct issues or the imposition of sanctions for inappropriate conduct. It is the student's responsibility to become familiar with the content of this policy.

### A. GRADING SYSTEMS

<http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf>

The following two grading systems are used at Camosun College:

#### 1. Standard Grading System (GPA)

Percentage	Grade	Description	Grade Point Equivalency
90-100	A+		9
85-89	A		8
80-84	A-		7
77-79	B+		6
73-76	B		5
70-72	B-		4
65-69	C+		3
60-64	C		2
50-59	D		1
0-49	F	Minimum level has not been achieved.	0

## 2. Competency Based Grading System (Non GPA)

This grading system is based on satisfactory acquisition of defined skills or successful completion of the course learning outcomes.

Grade	Description
COM	The student has met the goals, criteria, or competencies established for this course practicum or field placement.
DST	The student has met and exceeded, above and beyond expectation, the goals, criteria, or competencies established for this course, practicum or field placement.
NC	The student has not met the goals, criteria or competencies established for this course, practicum or field placement.

## B. Temporary Grades

Temporary grades are assigned for specific circumstances and will convert to a final grade according to the grading scheme being used in the course. See Grading Policy at <http://www.camosun.bc.ca/policies/E-1.5.pdf> for information on conversion to final grades, and for additional information on student record and transcript notations.

Temporary Grade	Description
I	<i>Incomplete:</i> A temporary grade assigned when the requirements of a course have not yet been completed due to hardship or extenuating circumstances, such as illness or death in the family.
IP	<i>In progress:</i> A temporary grade assigned for courses that are designed to have an anticipated enrollment that extends beyond one term. No more than two IP grades will be assigned for the same course.
CW	<i>Compulsory Withdrawal:</i> A temporary grade assigned by a Dean when an instructor, after documenting the prescriptive strategies applied and consulting with peers, deems that a student is unsafe to self or others and must be removed from the lab, practicum, worksite, or field placement.