



ENVR-103-001A/B
Environmental Microbiology
Winter 2019

COURSE OUTLINE

The course description is online @ <http://camosun.ca/learn/calendar/current/web/envr.html>

Ω Please note: This outline will *not* be kept indefinitely. It is recommended students keep this outline for their records, especially to assist in transfer credit to post-secondary institutions.

1. Instructor Information

(a) Instructor	Ian Browning
(b) Office hours	Tue., Thur. 11.30-12.20
(c) Location	P326
(d) Phone	370-3342 Alternative:
(e) E-mail	browning@camosun.ca
(f) Website	https://online.camosun.ca/

2. Intended Learning Outcomes

Upon completion of this course the student will be able to:

1. Use their knowledge of sterile lab technique to work safely with micro-organisms in a lab environment.
2. Apply their understanding of the critical role of micro-organisms in maintaining and remediating the environment, and to assess the consequences of human activities.

3. Required Materials

- (a) Lab Manual: from Course D2L site
- (b) Lab Coat (must be purchased by student before first lab: Available in book store)
- (c) Lecture note outlines: print from D2L:

4. Course Content and Schedule

Lecture: 1 hour / week Fisher 210
Fri: 13.30-14:20

Lab: 2 hours / week Fisher 222
Thur: 12.30 – 14.20 OR
Thur: 15.30 – 17.20

**ENVR.103 SCHEDULE
WINTER 2019**

Week (beginning)	LECTURE TOPIC Thursday	LAB EXERCISE Tuesday
1 Jan 7	Lec. 1: Course Introduction	Lab Safety LAB 1: Microscopy
2 Jan 14	Lec. 2: Bacterial Cell Structure and Function	LAB 2: Isolation Techniques Environmental Isolate Experiment
3 Jan 21	Structure and Function (continued)	LAB 3: Bacterial Stains
4 Jan 28	Lec. 3: Growth and Control	LAB 5: Growth Parameters
5 Feb 4	Growth and Control (continued)	LAB 6: Culture Media
6 Feb 11	Lec. 4: Bacterial Metabolism	LAB 7: Soil Bacteria: Nitrogen and Sulphur Cycles
7 Feb 18	NO Lecture: Reading Week	NO Lab: Reading Week
8 Feb 25	Lecture Exam 1 (Lectures 1-4)	Lab Exam 1 (Labs 1-5)
9 Mar 4	Lec. 5: Microbial Ecology: Population Interactions	LAB 8: Bioremediation: Isolation of Oil Degrading Bacteria
10 Mar 11	Lec 6: Microbial Ecology Biogeochemical Cycling	LAB 9: Enterobacteriaceae
11 Mar 18	Lec. 7: Sanitary Microbiology: Water Testing, BOD	LAB 10: Detecting Coliform Bacteria in Water
12 Mar 25	Sanitary Microbiology: Wastewater Treatment	LAB 10 continue EI Identification
11 Apr 1	Sanitary Microbiology: Drinking Water	LAB 10 continue EI Identification
14 Apr 8	Review/catchup	Lab Exam 2 (Labs 7-10)

The course schedule is provided to allow you to prepare for your labs in advance. The schedule and exam dates are subject to change as need arises. Since this is a lab-based course, **attendance in the lab is mandatory**. Students who miss labs without a valid medical excuse may be required to repeat the course. *Students who miss more than 2 hours of lab without a valid medical excuse will be docked 4% of their course mark per lab hour missed.*

Although labs are performed with a partner, all written material to be handed in for grading is to be presented individually. Plagiarism, including the copying of any part of assignments, laboratory reports, quizzes or exams is a serious offense and is considered to be an academic misconduct.

The final lecture exam will be comprehensive; however, emphasis will be placed on previously untested material.

Students are expected to write all tests and exams when scheduled. It is the student's responsibility to notify the instructor *in advance* if an exam must be missed. The student will be required to provide verification of emergency circumstance (i.e. note from Doctor) in order to write a make-up exam. Please do not schedule vacations during final exam period.

5. Basis of Student Assessment (Weighting – subject to change)

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|-----|----------------------------------|------|
| (a) | Assignments: 10% of grade | |
| | Environmental Isolate Project | 5% |
| | Other Assignments | 5% |
| (b) | Quizzes: 5% of grade | |
| | Weekly prelab quizzes: | 5% |
| (c) | Exams: | |
| | Lecture Exam 1 | 20%, |
| | Final Exam | 25% |
| | Lab Exam 1 | 20% |
| | Lab Exam 2 | 20% |

6. Grading System

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

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

Refer to the D2L course news feed for additional resources provided by instructor.

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, disability resource centre, help centre, learning skills, sexual violence support & education, library, and writing centre. For more information on each of these services, visit the **STUDENT SERVICES** link on the College website at <http://camosun.ca/>

College 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 the content of College policies. Policies are available on the College website at <http://camosun.ca/about/policies/>. Education and academic policies include, but are not limited to, Academic Progress, Admission, Course Withdrawals, Standards for Awarding Credentials, Involuntary Health and Safety Leave of Absence, Prior Learning Assessment, Medical/Compassionate Withdrawal, Sexual Violence and Misconduct, Student Ancillary Fees, Student Appeals, Student Conduct, and Student Penalties and Fines.

A. GRADING SYSTEMS <http://camosun.ca/about/policies/index.html>

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://camosun.ca/about/policies/index.html> 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.