



**CAMOSUN COLLEGE**  
**School of Arts & Science**  
**Department of Biology**

**BIOL-104-D02A/B**  
**Infectious Disease**  
**Fall 2020**

## **COURSE OUTLINE**

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

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### **1. Instructor Information**

(a) Instructor	Thuy Nevado
(b) Office hours	F 10:30-11:30am and 2:30-3:30pm Office hours will be held virtually via Collaborate.
(c) Location	F248A
(d) Phone	250-370-3433 <b>Alternative:</b> 250-216-2137
(e) E-mail	nevadot@camosun.bc.ca
(f) Website	online.camosun.ca

### **2. Intended Learning Outcomes**

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

1. Differentiate between bacteria, viruses, fungi, parasites and prions based on structural differences.
2. Analyze the different patterns of transmission and virulence mechanisms used by microorganisms to produce disease.
3. Describe how the nonspecific and specific host defenses work against a variety of organisms.
4. Categorize appropriate methods for treatment and control of infectious agents including physical methods, antibiotics and disinfectants and vaccinations.
5. Demonstrate the ability to practice aseptic technique in the microbiology lab and to use a variety of diagnostic tests to identify infectious agents.

### **3. Required Materials**

(a) Texts:

**Lab Manual.** Posted on D2L.

**OpenStax Microbiology.** Available free at [openstax.org/details/books/microbiology](https://openstax.org/details/books/microbiology).

(b) Other:

**Lab kit,** to be picked up from Campus or delivered by mail.

#### 4. Course Content and Schedules for Lab and Lecture Activities

<b>Week</b>	<b>Week</b>	<b>ONLINE LAB SESSION (Monday or Tuesday)</b> (discuss results from previous lab, intro new lab, complete lab)	<b>Activities</b>	<b>Submissions</b> (to be completed for the following week's lab)
1	Sep 8-11	Introduction to the Microbiology Lab		
2	Sep 14-18	Lab Safety Lab 1: Infection Control	From kit Observation	Lab 1 Discussion Q Prelab 2
3	Sep 21-25	Lab 2: Bacterial Stains and Microscopy	Simulation Analyse results	Lab 2 Discussion Q Prelab 3
4	Sep 28-Oct 2	Lab 3: Transfer and Isolation Techniques	How to videos From kit Analyse results	Lab 3 Post your results Lab 3 Discussion Q Prelab 4
5	Oct 5-9	Lab 4: Controlling Microbial Growth – Chemical Parameters	How to videos From kit Analyse results	Lab 4 Discussion Q
6	<b>Oct 12</b> Oct 13-16	<b>Thanksgiving</b> Lab 4: Results		
7	Oct 19-23	<b>Lab Exam I Labs 1-4</b>		Prelab 5
8	Oct 26-30	Lab 5: Controlling Microbial Growth – Physical Parameters	How to videos Simulation from kit Analyse results	Lab 5 Discussion Q Prelab 6
9	Nov 2-6	Lab 6: Lancefield agglutination and ELISA	How to videos Analyse results	Lab 6 Discussion Q Prelab 7
10	Nov 9-13	Lab 7: Microbial Contamination of Food and Water	How to videos From kit Analyse results	Lab 7 Post your results Lab 7 Discussion Q Prelab 8a
11	Nov 16-20	Lab 8a: Diagnostic Microbiology	Simulation from kit Analyse results	Lab 8a Video Lab 8a Discussion Q Prelab 8b
12	Nov 23-27	Lab 8b: Diagnostic Microbiology	How to videos Analyse results	Lab 8 Discussion Q
13	Nov 30-Dec 4	Review/Tutorial		
14	Dec 7-11	<b>Lab Exam II Labs 5-8</b>		

<b>Week</b>	<b>Week</b>	<b>LECTURE TOPIC (Fridays)</b>	<b>ASSIGNMENTS/Prelecture</b> (assigned on Friday, due following Friday)
1	Sep 8-11	Introduction to infectious disease Types of microbes	Assign 1: Types of microbes Prelect 2: Foodborne illnesses
2	Sep 14-18	Pathogenesis and virulence Bacterial structure Foodborne illnesses	Assign 2: Pathogenesis Prelect 3: Alzheimer's disease
3	Sep 21-25	Bacterial growth and reproduction Biofilm – Dental plaque	Assign 3: <i>P. gingivalis</i> Prelect 4: Tuberculosis
4	Sep 28-Oct 2	Antibiotics and resistance – Tuberculosis	Assign 4: Antibiotic resistance ads (due week 7) Prelect 5: SARS-CoV2
5	Oct 5-9	Viral structure and replication Pathogenesis and virulence – Colds vs. Flu	Assign 5: Respiratory illnesses Prelect 6: Epidemiology terms
6	Oct 12 Oct 13-16	<b>THANKSGIVING – College Closed</b> Epidemiology case study	Work on antibiotic resistance ad Prelect 7: Innate immunity
7	Oct 19-23	Innate immunity Present antibiotic resistance ads	Revise ads for submission wk 8 Prelect 8: Adaptive immunity
8	Oct 26-30	Adaptive immunity – HIV/AIDS	Assign 6: HIV/AIDS Prelect 9: Immunizations
9	Nov 2-6	Immune response to infection Prevention/treatment (vaccine/antibodies)	Assign 7: Immune response Prelect 10: Ebola
10	Nov 11 Nov 9-13	<b>REMEMBRANCE DAY – College Closed</b> Immunization Q and A – Ebola	Assign 8: Immunization Prelect 11: Vector diseases
11	Nov 16-20	Modes of transmission Climate change – Lyme disease	Assign 9: Vector presentation (due week 13) Prelect 12: Malaria
12	Nov 23-27	Protozoan diseases – Malaria	Work on Vector talk
13	Nov 30-Dec 4	Vector Victoria Virtual Conference	Prelect 14: Helminthic, fungal diseases
14	Dec 7-11	Fungal diseases: Cryptococcosis, Candida Helminthic diseases: Dracunculiasis, Anisakis	
Exam Period	Dec 14-22	<b>Final exam (to be scheduled by College Registrar, posted on Camlink)</b>	

## 5. Basis of Student Assessment (Weighting)

25%	Prelecture, lecture discussion, prelab, lab discussion (marked for completion/participation)
25%	Assignments
12.5%	Lab exam 1
12.5%	Lab exam 2
25%	Lecture Final Exam

## 6. Grading System

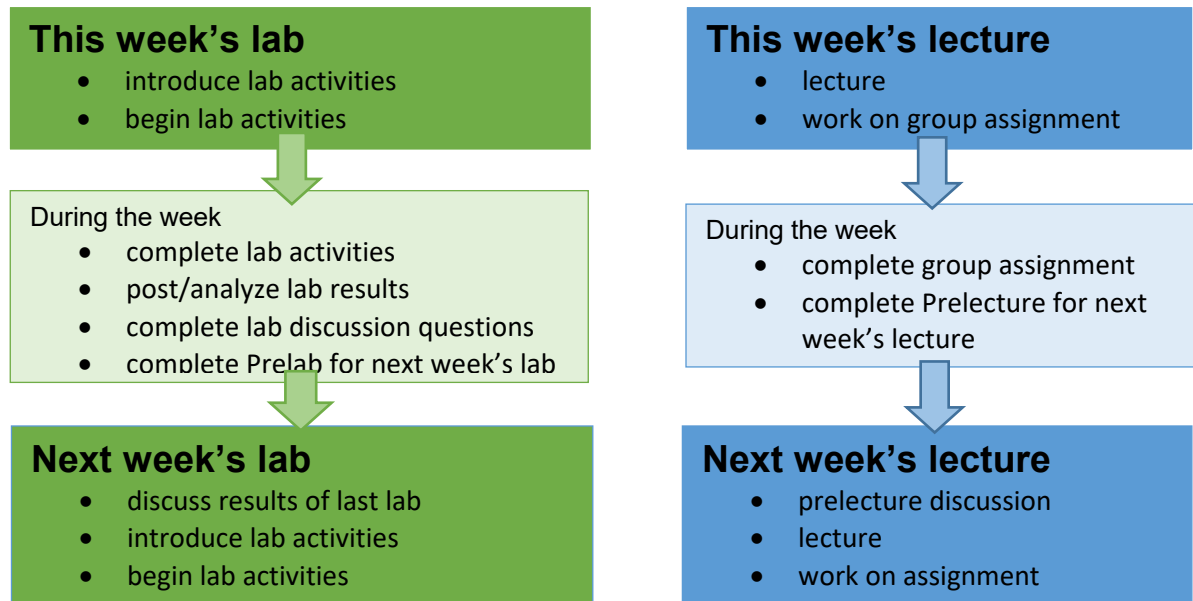
Standard Grading System (GPA)

Competency Based Grading System

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

- a) **Tech requirements.** Students will find it helpful to have access to a computer, webcam, microphone, headphones and printer. Office 365 is freely available for Camosun students. Please download/register for these apps so that you can open my Word files (for lecture notes and assignments) and maintain the proper formatting.
- b) **Preparation for lectures.** An outline of the lecture notes will be available by Sunday evening for the upcoming week's lectures. Students should download and print out the lecture notes so that they can follow along during the online lecture. There will also be prelecture readings required to be completed before the lecture. Lecture notes and any suggested pre-readings can be found on D2L > Contents > Lecture > Appropriate Week.
- c) **Lectures and Labs on Collaborate.** Labs will be held synchronously online every Monday or Tuesday (depending on the section) and lectures will be held synchronously online on Fridays according to the schedule posted on Camlink. Students will go to the Biol 104 course on D2L > Collaborate and join the appropriate Collaborate session. Each session will be open 15 min. before the class start time. Early entry will allow students to check their microphone/webcam/internet connection, socialize, ask questions and get settled.
- d) **Prelectures and prelabs** are to be done individually and must be submitted to D2L before the start of the matching lecture and lab as they will provide the background for case studies, critical thinking exercises, discussion and activities that will occur during class time.
- e) **Assignments** may be intended to be completed as individuals or as groups. The instructor will make clear which is which. Work intended to be submitted by an individual must be completed independently, keeping in mind student conduct requirements. Work intended for completion by a group **must not** be completed by a single individual.
- f) **All exams must be written at the scheduled times.** However, it is understood that emergency circumstances occur (e.g. illness or emergency in the immediate family); for such circumstances an oral exam will be given instead, provided the student:
  - (i) notifies the instructor **in advance** of the exam (not after), and
  - (ii) provides documented evidence of the circumstance (i.e. medical certificate) or speaks to the instructor via Collaborate.

## g) Course flow



### Each week, during the scheduled lab time on D2L > Collaborate:

- The instructor will introduce the lab activities.
- Starting Lab 2, the instructor will also discuss results from the previous week's lab. Students will be asked to share their results and answers to the discussion questions. Student participation in this exercise will earn them **lab discussion** marks. Students unable to join in synchronously can receive marks by submitting their completed lab discussion document to D2L > Assessments > Assignments > Lab completion.
- Students will then work on the lab activities.

### In the week between scheduled labs:

- Students will complete their lab activities and post results by Saturday evening. Image or video results will be posted to D2L > Course media > Lab Results Gallery. Class results involving numerical data will be posted differently; instructions will be given with the lab. Prompt sharing of results will allow us to make conclusions based on a larger data set.
- Students will complete a **prelab** and submit to D2L > Assessments > Assignments > Prelab for completion marks. The prelab usually consists of creating a summary flow chart of the procedures for each lab activity described in the lab manual. This will help students visualize what they would be doing in the Microbiology lab.

### Each week, during the scheduled lecture time on Collaborate:

- The instructor will spend part of the lecture discussing the week's lecture topic.
- The remaining time will be set aside for students to work online in groups of 4 to discuss and begin an assignment that helps them understand, apply and think critically about the topic.
- In weeks where the following week's prelecture is divided into 4 parts, students will also decide which prelecture topic they will complete for their group.
- Starting week 2, time will also be set aside for discussion of the prelecture topics. Students who participate in this activity during the synchronous Collaborate session will receive marks for **lecture discussion**. Students unable to join in synchronously can receive marks by submitting their discussion points to D2L > Discussion under the appropriate thread/section before the start of that week's lecture. This will provide their group members with the appropriate information in time to make use of it.

**In the week between scheduled lectures:**

- Each group of 4 students will complete and submit one assignment to D2L > Assessments > Assignments > Group assignments. Unless otherwise stated, each assignment will be due one week later at the start of the next week's lecture. These weekly **assignments** will be marked and contribute to 25% of your final grade.
- Each student will complete one **prelecture** and submit to D2L > Assessments > Assignments > Prelecture for completion marks.

## 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.