



CAMOSUN COLLEGE
School of Arts & Science
Department of Biology

BIOL-104-001 and -002
Infectious Disease
Fall 2019

COURSE OUTLINE

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.

1. Instructor Information

(a) Instructor	Thuy Nevado
(b) Office hours	T 1:30-2:20pm, W 9:30-10:20am & 3:30-4:20pm, F 9:30-11:30am
(c) Location	F248A
(d) Phone	250-370-3433
(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.
Text: OpenStax Microbiology. Available free at openstax.org/details/books/microbiology.
- (b) Other
Lab Coat for use in Microbiology Lab only. Available for rent or purchase at Bookstore.

4. Course Content and Schedule Schedule is subject to change.

Week	Week	LECTURE TOPIC	LAB
1	Sep 2-6	Introduction to infectious disease Types of microbes	Introduction to the Microbiology Lab and Lab Safety Lab 1: Infection Control
2	Sep 9-13	Bacterial structure, growth, reproduction Pathogenesis and virulence Foodborne illnesses	Lab 2: Transfer and Isolation Techniques
3	Sep 16-20	Viral structure and replication Pathogenesis and virulence – Colds vs. Flu	Lab 3: Bacterial Stains and Microscopy
4	Sep 23-27	Epidemiology case study	Lab 4: Controlling Microbial Growth – Physical Parameters
5	Sep 30-Oct 4	Innate immunity	Lab 5: Controlling Microbial Growth – Chemical Parameters
6	Oct 7-11	Adaptive immunity – HIV/AIDS	Lab 6: Microbial Contamination of Food and Water
7	Oct 14 Oct 17 Oct 15-18	THANKSGIVING – College Closed Shakeout Immunization – Ebola	Lab 6: Results
8	Oct 21-25	Antibiotics and resistance – Tuberculosis	Lab Exam I Labs 1-5
9	Oct 28-Nov 1	Biofilm – Dental plaque	Lab 7a: Diagnostic Microbiology
10	Nov 4-8	Modes of transmission Climate change – Lyme disease	Lab 7b: Diagnostic Microbiology
11	Nov 11 Nov 12-15	REMEMBRANCE DAY – College Closed Protozoan diseases – Malaria	Lab 7c: Diagnostic Microbiology
12	Nov 18-22	Fungal diseases – Cryptococcosis	Lab 8: Normal Flora / Pathogens of the Nose and Throat
13	Nov 25-29	Helminthic diseases -- Dracunculiasis	Lab 9: ELISA for Tracking an HIV Epidemic
14	Dec 2-6	Review	Lab Exam II Labs 6-9
Exam Period	Dec 9-17	Final exam (to be scheduled by College Registrar, posted on Camlink)	

5. Basis of Student Assessment (Weighting)

Pre-lecture and prelab assignments 25%

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Assignments and projects	25%
Lab exam 1	12.5%
Lab exam 2	12.5%
Lecture Final Exam	25%

- a) Pre-lecture and prelab assignments are to be done individually and must be completed before the start of lecture and lab as they will provide the background for case studies, critical thinking exercises and experiments that will be completed by students working in teams during class time.
- b) 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 an individual.
- c) **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 accommodation may be offered at the discretion of the instructor, 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).

*** HOLIDAYS OR SCHEDULED FLIGHTS ARE NOT CONSIDERED TO BE EMERGENCIES ***

Be sure not to make travel plans for the end of semester until the final exam schedules are finalized and posted. Please ask any family members who might make travel plans on your behalf to consult you before booking tickets.

6. Grading System

Standard Grading System (GPA)

Competency Based Grading System

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

You are encouraged to **consult your instructor if you require assistance or experience difficulty** with the course.

LEARNING SUPPORT AND SERVICES FOR STUDENTS

There are a variety of services available for students to assist them throughout their learning. This information is available in the College calendar, at Student Services, or the College web site at camosun.ca.

STUDENT CONDUCT POLICY

There is a Student Conduct Policy **which includes plagiarism**. It is the student's responsibility to become familiar with the content of this policy. The policy is available in each School Administration Office, at Student Services, and the College web site in the Policy Section.

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.

9. Course Policies

Student Safety

Nothing is more important to the instructor than students enjoying a safe class and lab environment. Consider the following issues:

Lab footwear	<ul style="list-style-type: none"> For safety reasons WorkSafeBC mandates that students are required to wear closed shoes in all lab times. Flip flops, sandals or shoes with holes are not acceptable.
Lab Coats	<ul style="list-style-type: none"> For regulatory, safety, and professional reasons, it is mandatory to wear a lab coat during all lab sessions. Cloth coats are preferable and are more comfortable but disposable ones are acceptable. Failure to wear proper lab attire will result in the inability to enter the lab and the subsequent loss of credit for that lab, including any lab assessment credit. While in the lab the lab coat must be completely buttoned. The lab coat must never be worn outside of the lab. If you must leave the lab for any reason you must remove your lab coat.
Eating & drinking	<ul style="list-style-type: none"> Eating or drinking anything in the lab is a violation of federal regulations, so absolutely nothing may be ingested while in the lab. Chewing gum and applying makeup or lip balm are similarly prohibited. No exceptions will be made, even for medications. If something must be consumed, then it may be taken out of the lab.
Hair	<ul style="list-style-type: none"> It is recommended that long hair be tied securely to prevent it from being exposed to lab equipment.
Handwashing	<ul style="list-style-type: none"> Hands should be thoroughly washed after removing lab coats and before leaving the lab.

Laboratory Attendance

Lab work is critical to the course objectives and much effort has been expended to ensure the lab experience is interesting and educational, both from academic and practical points of view. Therefore, attendance throughout the entire laboratory session is mandatory and will be noted. Labs will start promptly because information necessary for performing the laboratory correctly and safely is given at the beginning of the lab. Late attendance may result in inability to attend the lab and subsequent loss of credit for any assignments. Lateness in arriving, failure to attend the lab or leaving the lab before its scheduled

finish time will result in forfeiting credit for that lab, including any written assignments. If a lab session is missed, another student's data **may not** be used to complete a lab assignment for credit. Exceptions can be made **at the instructor's discretion** in legitimate cases of emergency (e.g. illness); in such cases the instructor must receive **advance notification** and **documented evidence** of the situation (e.g. medical certificate) and grant approval for any accommodation. In cases when a lab is done over two weeks, missing one of the weeks without instructor approval will result in a 50% reduction in the grade for any assignment associated with that lab.

Late Penalties

All assignments must be handed in by the **time indicated on the assignment**. Be sure to submit all assignments on time to avoid deductions. Late assignments will be graded but marks equivalent to 10% of the total value of the assignment will be deducted for each day past the deadline.

Study Habits

Good (and regular!!) study habits are required to do well in this course. You should plan on a minimum of 6 hours outside of scheduled class time for the completion of preparatory work, assignments and for general studying. Joining a study group can help make this more fun.

Lecture notes will be uploaded to the course website. These should be used as a study guide, not as your sole source of information! You will need to write down additional key words for examples and explanations given during lecture. It is also recommended practice to transcribe these notes into a study-friendly format after each lecture, incorporating additional information from your textbook. Study these notes before the next class to prepare yourself for new material, which will often build on previously covered material.

Please take advantage of office hours if you need extra clarification and help, or simply would like to discuss a topic a little further.

Summary of Student Responsibilities

1. Attending classes and actively engaging in lecture times are optimal for learning and therefore are in the best interests of student success. Should it be necessary to miss a lecture, however, it is the student's responsibility to catch up on anything that may have been missed (e.g. important announcement or assignments).
2. Students must hand in required assignments on time or be subject to penalty.
3. Evaluation of written or oral work will not be given if a student is not present.
4. Students must work independently, except when a group effort is required.
5. Students must know and follow all Safety Rules and Procedures. Students must sign the Safety Contract before participating in any laboratory activity.
6. All safety measures must be followed, with **NO EXCEPTIONS**.
7. The use of cell phones and lap tops is prohibited in the lab.
8. All laboratories start punctually.