

COURSE SYLLABUS



COURSE TITLE: BIOL-104: Infectious Disease
CLASS SECTION: 001A and 001B
TERM: Fall 2023
COURSE CREDITS: 3
DELIVERY METHOD(S): In person lecture (2h) and lab (2h)

Camosun College campuses are located on the traditional territories of the Ləkʷəŋən and W̱SÁNEĆ peoples. We acknowledge their welcome and graciousness to the students who seek knowledge here.
Learn more about Camosun's [Territorial Acknowledgement](#).

INSTRUCTOR DETAILS

NAME: Thuy Nevado

EMAIL: nevadot@camosun.ca

OFFICE: F248A

HOURS: Tuesdays 3-4pm, Wednesdays 1-3pm and Thursdays 3-4pm or by appointment*

*Other meeting times can be arranged on campus or online if these times don't fit with your schedule.

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.

CALENDAR DESCRIPTION

This introductory course focuses on the microbial agents of infectious disease and their mechanisms of pathogenesis. Topics include: growth and reproduction, process of infection, host responses, laboratory identification, treatment and control.

PREREQUISITE(S):

One of:

- C in English 12
- C in Camosun Alternative

One of:

- C in Biology 12
- C in Camosun Alternative

And one of:

- C in Chemistry 11
- C in Camosun Alternative

CO-REQUISITE(S):

Not Applicable

EXCLUSION(S):

Not Applicable

COURSE LEARNING OUTCOMES / OBJECTIVES

Upon completion of this course a 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.

REQUIRED MATERIALS & RECOMMENDED PREPARATION / INFORMATION

Textbook: OpenStax Microbiology. Available free at openstax.org/details/books/microbiology.

Lab manual: Department of Biology. F2023. Biology 104 Lab Manual. Camosun College, Victoria. Available at the Camosun Bookstore and posted on D2L.

Lab Coat for use in Microbiology Lab only. Available for rent or purchase at the Camosun Bookstore. All lab coats will remain in the lab until the end of the semester when they will be cleaned. If you choose to bring your own lab coat, please be aware that you will not be able to use your lab coat for any other course.

Tech requirements. Students will find it helpful to have access to a computer and printer. Office 365 is freely available for Camosun students. Please download/register for these apps so that you can open my Word and PDF files (for lecture notes and assignments) and maintain the proper formatting.

Preparation for lectures. An outline of the lecture notes will be available by Sunday evening for the upcoming week's lecture and posted on the course D2L site: <https://online.camosun.ca>. Students should download and bring a copy of the lecture notes to class so that they can follow along and add to the notes during the lecture. There will also be a prelecture assignment to be completed before the start of each lecture. Lecture notes and pre-lecture readings/assignments can be found on D2L > Contents > Lecture > Appropriate Week.

Preparation for labs. Outlines/procedures for all labs can be found in the Lab Manual purchased through the bookstore or available on D2L. Students should read through the lab outline and complete the prelab assignment before coming to lab each week. The prelab assignment usually involves preparing a visual summary of each lab activity so that students can easily keep track of their next steps and complete the lab successfully. **A hard copy of the lab outline and completed prelab assignment should be brought to lab each week.**

COURSE SCHEDULE, TOPICS, AND ASSOCIATED PREPARATION / ACTIVITY / EVALUATION

The following schedule and course components are subject to change with reasonable advance notice, as deemed appropriate by the instructor.

Week	Dates	LAB TOPIC (Monday) (discuss results from previous lab, intro new lab, complete lab)	Submissions (to be completed for the following Mon)
1	Sept 4	LABOUR DAY – College closed	
2	Sept 11	Intro to the Microbiology Lab, Lab Safety Lab 1: Infection Control	Lab 1 Discussion Q Prelab 2
3	Sept 18	Lab 2: Bacterial Stains and Microscopy	Lab 2 Discussion Q Prelab 3
4	Sept 25	Lab 3: Transfer and Isolation Techniques	Lab 3 Disc Q (due Sept 28) Prelab 4 (due Oct 23)
5	Oct 2	NATIONAL DAY FOR TRUTH AND RECONCILIATION -- College Closed	
6	Oct 9	THANKSGIVING – College Closed	
7	Oct 16	Midterm exam (Lecture and Labs 1-3)	
8	Oct 23	Lab 4: Controlling Microbial Growth – Chemical Parameters	Lab 4 Discussion Q Prelab 5
9	Oct 30	Lab 5: Controlling Microbial Growth – Physical Parameters	Lab 5 Discussion Q Prelab 6
10	Nov 6	Lab 6: Lancefield agglutination and ELISA	Lab 6 Discussion Q Prelab 7 (due Nov 20)
11	Nov 13	REMEMBRANCE DAY – College Closed	
12	Nov 20	Lab 7: Microbial Contamination of Food and Water	Lab 7 Discussion Q
13	Nov 27	Lab 7: Results	
14	Dec 4	Lab Exam Labs 1-7	

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](http://camosun.ca/services/accessible-learning/exams.html). <http://camosun.ca/services/accessible-learning/exams.html>

Week	Dates	LECTURE TOPIC (Thursday)	ASSIGNMENTS/Prelecture (assigned on Thurs, due next Thurs)
1	Sept 7	Introduction to infectious disease Types of microbes	Assign 1: Types of microbes Prelect 2: Epidemiology
2	Sept 14	Pathogenesis and virulence Bacterial structure	Assign 2: Foodborne illnesses & STIs Prelect 3: Alzheimer's disease
3	Sept 21	Bacterial growth and reproduction Biofilm – Dental plaque	Assign 3: Oral pathogens and systemic disease Prelect 4: Tuberculosis and AMR
4	Sept 28	Lab 3 results Antimicrobial resistance	Assign 4: Antimicrobial resistance Prelect 5: Pandemic viruses
5	Oct 5	Viral structure and replication Pathogenesis and virulence	Assign 5: Viral epidemics Prelect 6: Microbes & mental health
6	Oct 12	Microbes and mental health Showcase Antimicrobial Resistance Review	Prelect 7: Innate immunity
7	Oct 19	BC Shakeout 10:23am Innate immunity	Prelect 8: Adaptive immunity
8	Oct 26	Adaptive immunity	Assign 6: Viruses & Immune response Prelect 9: Immunization Q and A
9	Nov 2	Immune response to infection Prevention/treatment (vaccine/antibodies)	Assign 7: Immune response Prelect 10: Vector borne diseases
10	Nov 9	Protozoan diseases – Malaria	Assign 8: Vector presentation (due Nov 30) Prelect 11: Malaria
11	Nov 16 Nov 18-24	Malaria news Immunization Q and A World Antibiotic Awareness Week	Prelect 12: Ebola
12	Nov 23	Ebola Immunization Q and A	Work on Vector presentation
13	Nov 30	Vector Victoria Conference Climate change and disease transmission	Prelect 14: Helminthic, fungal diseases
14	Dec 8	Fungal diseases Helminthic diseases	
Exam Period	Dec 11-19	Final exam (to be scheduled by College Registrar, posted on myCamosun)	

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EVALUATION OF LEARNING

DESCRIPTION	WEIGHTING
Prelecture, lecture discussion, prelab, lab discussion (marked for completion/participation)	20
Group Assignments	25
Midterm exam (lecture and lab material)	12.5
Lab exam (cumulative)	12.5
Final lecture exam (cumulative)	30
	TOTAL
	100%

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](http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf) policy for more information.
<http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf>

COURSE GUIDELINES & EXPECTATIONS

Lecture attendance

To get the most out of this course, students are expected to attend all classes and be on time. A large portion of your learning will come from exchanging information read in articles within a small group setting, working in pairs or small groups to complete lecture activities and assignments as well as having whole class discussions. If you are absent from lecture, you will miss demonstrations, case study discussions and learning the social, economic, political, and cultural aspects of infectious disease. Your group members will also be unable to benefit from you sharing what you have learned from reading your articles. Therefore, marks for lecture discussion will only be given to those who participate in these discussions. It is your responsibility to acquire all information given during a class missed, including notes, hand-outs, changed exam dates etc.

Laboratory Attendance

Laboratory attendance for this course is **mandatory** because many activities depend upon work performed in groups and skills and experiences that can only be had in person. It is expected that students will read and prepare for each lab BEFORE arrival. Lateness in arriving, failure to attend the lab, or leaving the lab before its scheduled finish time will result in forfeiting credit for lab discussion and lab assignments. In cases of illness or emergency, concessions may be available if you communicate with your instructor before the lab period occurs. All absences will be noted. If you are arriving late, it is your responsibility to ensure that your attendance record is changed from absent to late. **Missing a total of 4 or more labs in this course, for any reason, will result in a failing grade (F) in the entire course**, regardless of marks received on graded material.

Assignments

Work intended to be submitted by an individual must be completed independently, keeping in mind student conduct and academic integrity requirements. Work intended for completion by a group must not be completed by an individual.

- **Prelecture assignments**
Completed individually. Due at the start of each lecture. Checked in class.
Often consists of reading an article posted on D2L and taking point form, handwritten notes.

- **Lecture assignments**
Completed as a group. Due 11:59 pm the following Thursday. Submit one copy online to D2L dropbox. Lecture assignments are designed to help you learn and apply the material presented in lecture. To gain the most from this assignment and to get the best mark, it is recommended that students first review the lecture notes package, then complete the assignment on their own. Time will be provided in lecture the following week for students to discuss and compare answers with their group members. The assignment can then be compiled and submitted before 11:59pm that Thursday night.
- **Prelab assignment**
Completed individually. Due at the start of each lab. Checked at the start of each lab. Students will read the lab procedures and prepare a visual summary of the key steps for each lab activity. Doing the prelab will ensure that you can complete the lab within the allotted 2 hours.
- **Lab discussion questions**
Completed individually. Due at the start of the next lab. Checked at the start of lab. Students will analyse results posted online and complete the lab discussion questions. Students will then share their answers with the whole class during the lab discussion. Marks are given for completion of the discussion questions and for participating in the lab discussion.

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 in the form of an alternate exam may be offered at the discretion of the instructor, provided the student:

- notifies the instructor **in advance** of the exam (**not after**), and
- provides documented evidence of the circumstance (i.e. medical certificate).

Study habits

Good and regular study habits are essential to do well in this course. You should plan on a weekly minimum of 6 hours outside of scheduled class time for the completion of readings, assignments and for general studying. Joining a study group can help make this more achievable. Lecture presentations 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 and review text and videos to support your understanding. It is also recommended practice to transform lecture 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.**

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.

SUPPORTS AND SERVICES FOR STUDENTS

Camosun College offers a number of services to help you succeed in and out of the classroom. For a detailed overview of the supports and services visit <http://camosun.ca/students/>.

Academic Advising	http://camosun.ca/advising
Accessible Learning	http://camosun.ca/accessible-learning
Counselling	http://camosun.ca/counselling
Career Services	http://camosun.ca/coop
Financial Aid and Awards	http://camosun.ca/financialaid
Help Centres (Math/English/Science)	http://camosun.ca/help-centres
Indigenous Student Support	http://camosun.ca/indigenous
International Student Support	http://camosun.ca/international/
Learning Skills	http://camosun.ca/learningskills
Library	http://camosun.ca/services/library/
Office of Student Support	http://camosun.ca/oss
Ombudsperson	http://camosun.ca/ombuds
Registration	http://camosun.ca/registration
Technology Support	http://camosun.ca/its
Writing Centre	http://camosun.ca/writing-centre

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

COLLEGE-WIDE POLICIES, PROCEDURES, REQUIREMENTS, AND STANDARDS

Academic Accommodations for Students with Disabilities

The College is committed to providing appropriate and reasonable academic accommodations to students with disabilities (i.e. physical, depression, learning, etc). If you have a disability, the [Centre for Accessible Learning](http://camosun.ca/services/accessible-learning/) (CAL) can help you document your needs, and where disability-related barriers to access in your courses exist, create an accommodation plan. By making a plan through CAL, you can ensure you have the appropriate academic accommodations you need without disclosing your diagnosis or condition to course instructors. Please visit the CAL website for contacts and to learn how to get started:

<http://camosun.ca/services/accessible-learning/>

Academic Integrity

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.13.pdf> for policy regarding academic expectations and details for addressing and resolving matters of academic misconduct.

Academic Progress

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.1.pdf> for further details on how Camosun College monitors students' academic progress and what steps can be taken if a student is at risk of not meeting the College's academic progress standards.

Course Withdrawals Policy

Please visit <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.2.pdf> for further details about course withdrawals. For deadline for fees, course drop dates, and tuition refund, please visit <http://camosun.ca/learn/fees/#deadlines>.

Grading Policy

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf> for further details about grading.

Grade Review and Appeals

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf> for policy relating to requests for review and appeal of grades.

Mandatory Attendance for First Class Meeting of Each Course

Camosun College requires mandatory attendance for the first class meeting of each course. If you do not attend, and do not provide your instructor with a reasonable reason in advance, you will be removed from the course and the space offered to the next waitlisted student. For more information, please see the "Attendance" section under "Registration Policies and Procedures" (<http://camosun.ca/learn/calendar/current/procedures.html>) and the Grading Policy at <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf>.

Medical / Compassionate Withdrawals

Students who are incapacitated and unable to complete or succeed in their studies by virtue of serious and demonstrated exceptional circumstances may be eligible for a medical/compassionate withdrawal. Please visit <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.8.pdf> to learn more about the process involved in a medical/compassionate withdrawal.

Sexual Violence and Misconduct

Camosun is committed to creating a campus culture of safety, respect, and consent. Camosun's Office of Student Support is responsible for offering support to students impacted by sexual violence. Regardless of when or where the sexual violence or misconduct occurred, students can access support at Camosun. The Office of Student Support will make sure students have a safe and private place to talk and will help them understand what supports are available and their options for next steps. The Office of Student Support respects a student's right to choose what is right for them. For more information see Camosun's Sexualized

Violence and Misconduct Policy: <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.9.pdf> and camosun.ca/sexual-violence. To contact the Office of Student Support: oss@camosun.ca or by phone: 250-370-3046 or 250-3703841

Student Misconduct (Non-Academic)

Camosun College is committed to building the academic competency of all students, seeks to empower students to become agents of their own learning, and promotes academic belonging for everyone. Camosun also expects that all students to conduct themselves in a manner that contributes to a positive, supportive, and safe learning environment. Please review Camosun College's Student Misconduct Policy at <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.5.pdf> to understand the College's expectations of academic integrity and student behavioural conduct.

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 courses if it becomes necessary so that course content remains relevant. In such cases, the instructor will give the students clear and timely notice of the changes.