

COURSE SYLLABUS



COURSE TITLE: BIOL-104: Infectious Disease
CLASS SECTION: 001 A and B
TERM: Winter 2024
COURSE CREDITS: 3
DELIVERY METHOD(S): In person lecture (2h) and lab (2h)

Camosun College campuses are located on the traditional territories of the Lək̓ʷəŋən and W̓SÁNEĆ 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: Mon 3-5 pm, Tues 3-4 pm and Wed 2-3pm

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/W2024. 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 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 pre-readings recommended for the lecture and a prelecture assignment posted each week on D2L. Lecture notes and pre-lecture readings/assignments can be found on D2L > Contents > Lecture > Appropriate Week.

Preparation for labs. Outlines 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 | LECTURE TOPIC (Tuesday) | ASSIGNMENTS/Prelecture (assigned Tues, due 11:59 pm next Tues) |
|-------------|---------------------|-------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| 1 | Jan 9 | Introduction to infectious disease Types of microbes | Assign 1: Types of microbes Prelect 2: Epidemiology |
| 2 | Jan 16 | Pathogenesis and virulence Bacterial structure | Assign 2: Foodborne illnesses & STIs Prelect 3: Alzheimer's disease |
| 3 | Jan 23 | Bacterial growth and reproduction Biofilm – Dental plaque | Assign 3: Oral pathogens and systemic disease Prelect 4: Tuberculosis and AMR |
| 4 | Jan 30 | Antimicrobial resistance | Assign 4: Antimicrobial resistance Prelect 5: Pandemic viruses |
| 5 | Feb 6 | Viral structure and replication Pathogenesis and virulence | Assign 5: Viral epidemics Prelect 6: Innate immunity & mental health |
| 6 | Feb 13 | Innate immunity | Prelect 8: Adaptive immunity |
| 7 | Feb 19 Feb 20-23 | Family Day (College closed) Reading Break | |
| 8 | Feb 27 | Adaptive immunity | Assign 6: Viruses & Immune response Prelect 9: Immunization Q and A |
| 9 | Mar 5 | Immune response to infection Prevention/treatment (vaccine/antibodies) | Assign 7: Immune response Prelect 10: Vector borne diseases |
| 10 | Mar 12 | Protozoan diseases – Malaria | Assign 8: Vector presentation (due Mar 26) Prelect 11: Malaria |
| 11 | Mar 19 | Malaria news Immunization Q and A | |
| 12 | Mar 26 | Vector Victoria Conference Climate change and disease transmission | Prelect 13: Ebola |
| 13 | Apr 2 | Ebola Lab 8 Results and discussion | Prelect 14: Helminthic, fungal diseases |
| 14 | Apr 9 | Fungal and Helminthic diseases | |
| Exam Period | Apr 15-23 | Final exam (to be scheduled by College Registrar, posted on myCamosun) | |

| Week | Dates | LAB TOPIC (Monday) (discuss results from previous lab, intro new lab, complete lab) | Submissions (to be completed for the following Mon) |
|------|---------------------|----------------------------------------------------------------------------------------|--------------------------------------------------------|
| 1 | Jan 8 | Intro to the Microbiology Lab, Lab Safety Lab 1: Infection Control | Lab 1 Discussion Q Prelab 2 |
| 2 | Jan 15 | Lab 2: Bacterial Stains and Microscopy | Lab 2 Discussion Q Prelab 3 |
| 3 | Jan 22 | Lab 3: Transfer and Isolation Techniques | Lab 3 Discussion Q Prelab 4 |
| 4 | Jan 29 | Lab 4: Controlling Microbial Growth – Chemical Parameters | Lab 4 Discussion Q |
| 5 | Feb 5 | Lab 4: Results and review | |
| 6 | Feb 12 | Lab Exam I Labs 1-4 | |
| 7 | Feb 19 Feb 20-23 | Family Day (College closed) Reading Break (NO LABS) | Prelab 5 |
| 8 | Feb 26 | Lab 5: Controlling Microbial Growth – Physical Parameters | Lab 5 Discussion Q Prelab 6 |
| 9 | Mar 4 | Lab 6: Lancefield agglutination and ELISA | Lab 6 Discussion Q Prelab 7 |
| 10 | Mar 11 | Lab 7: Microbial Contamination of Food and Water | Lab 7 Discussion Q Prelab 8a |
| 11 | Mar 18 | Lab 8a: Diagnostic Microbiology | Lab 8a Discussion Q Prelab 8b |
| 12 | Mar 25 | Lab 8b: Diagnostic Microbiology | Lab 8b Discussion Q (due Tues Apr 2 in Lect) |
| 13 | Apr 1 | Easter Monday (College closed) | |
| 14 | Apr 8 | Lab Exam II Labs 5-8 | |

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>

EVALUATION OF LEARNING

| DESCRIPTION | WEIGHTING |
|--------------------------------------------------------------------------------------------------------|-------------|
| Prelecture, lecture discussion, prelab, lab discussion questions (marked for completion/participation) | 20 |
| Assignments | 25 |
| Lab exam 1 | 12.5 |
| Lab exam 2 | 12.5 |
| Final lecture exam | 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

In order to pass the course, students are required to meet the minimum lab attendance, participation and completion requirements.

- Laboratory activities involve practical applications of your knowledge and manual skills development. Development of these skills is a requirement to meet the Course Learning Outcomes.
- Meeting Course Learning Outcomes is a requirement for gaining credit in the course, as well as ensuring articulation, pre-requisite and transferability standards are met.
- Laboratory activities are in-person activities; attendance and participation are required. Online alternatives are not available.
- Laboratory attendance will be monitored by a sign-in/sign-out binder in the lab. It is your responsibility to record your attendance using this binder.
- Attendance from the sign-in/sign-out binder will be transferred to your D2L gradebook by your instructor. If you notice any discrepancies, please contact your instructor ASAP.
- If you arrive significantly late to the lab, you may miss the opportunity to sign-in and will be recorded as absent.

Missed Lab Guidelines:

- Students who will miss a laboratory session have an obligation to seek out concessions directly from their instructor in a timely manner, BEFORE the lab period occurs.
- If notification is provided AFTER the lab has occurred, concessions may not be available.
- **If you miss a total of four (4) or more labs for any reason** (including, but not limited to: life circumstances, legitimate illness or family/pet emergency, planned vacations, milestone family events, work commitments, childcare or eldercare commitments, competitive athletic events), **you will be unable to meet the learning outcomes for the class and will receive a failing grade (F) in the entire course, regardless of marks received on graded lab and lecture components.** Exceptions will only be considered through an academic concession granted by the instructor or Dean/Associate Dean.
- This guideline applies to in-person laboratory activities only; for missed Lab Exams, please see the section in this outline on Exams below.
- Please note that if you are suffering from a serious medical illness that prevents you from participating in this course, Camosun College has a Compassionate Medical Withdrawal Policy: <https://camosun.ca/services/forms#medical>)

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 Tuesday. 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 Tuesday 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

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](#) (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.