



## COURSE OUTLINE

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

Ω Please note: the College electronically stores this outline for five (5) years only.

It is **strongly recommended** you keep a copy of this outline with your academic records.

You will need this outline for any future application/s for transfer credit/s to other colleges/universities.

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### 1. Instructor Information

- (a) Instructor: Dominic Bergeron, PhD
- (b) Office Hours: [M 9:30-11:30](#); [W 11:30-12:30](#); [F 11:30-12:30 & 13:30-14:40](#)
- (c) Location: F 248 D
- (d) Phone: 250-370-3432
- (e) Email: [BergeronD@camosun.ca](mailto:BergeronD@camosun.ca)
- (f) Website:

### 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) Lab Coat for use in Microbiology Lab only
- (b) Lecture outlines will be posted on the course D2L website: <https://online.camosun.ca>
- (c) Lab Manual: Purchase through Bookstore
- (d) Recommended Text: **OpenStax Microbiology**. Available free at [openstax.org/details/books/microbiology](https://openstax.org/details/books/microbiology)

### 4. Course Content and Schedule

Lectures: Monday 11:30 – 13:20 Fisher 212

Laboratory: Thursday 10:30 – 12:20 (Section A); 15:30 – 17:20 (Section B) Fisher 222

**Biology 104: Infectious Disease**  
**Fall 2017**

Schedule is subject to change.

<b>Week</b>	<b>Dates</b>	<b>LECTURE TOPIC Tuesday</b>	<b>LAB EXERCISE Thursday</b>
1	Sept 5, 7	_____	Introduction to the Microbiology Lab and Lab Safety Lab 1: Infection Control
2	Sept 12, 14	Lec. 1: Bacterial Cell structure and taxonomy	Lab 2: Transfer and Isolation Techniques
3	Sept 19, 21	Lec. 2: Classification and diversity of Infectious agents	Lab 3a: Bacterial Stains
4	Sept 26, 28	Lec. 3: Microbial Physiology/Metabolism/Genetics	Lab 3b: Microscopy
5	Oct 3, 5	Lec. 4: Bacterial Growth and Control	Lab 4: Controlling Microbial Growth – Physical Parameters
6	Oct 10, 12	<b>Thanksgiving (No lecture)</b>	Lab 5: Controlling Microbial Growth – Chemical Parameters
7	Oct 17, 19	<b>Midterm Exam (15%) (Oct 17)</b>	Lab 6: Microbial Contamination of Food and Water
8	Oct 24, 26	Lec. 5: Pathogenesis of Infectious Disease	<i>NO LAB – BUT LECTURE!!!</i> Lec. 6: Drug Resistance
9	Oct 31, Nov 2	Lec. 8: Epidemiology	Lab 7a: Diagnostic Microbiology
10	Nov 7, 9	Lec. 9: Innate Host Defense	Lab 7b: Diagnostic Microbiology
11	Nov 14, 16	<b>Remembrance Day (No lecture)</b>	Lab 7c: Diagnostic Microbiology
12	Nov 21, 23	Lec. 10: Acquired Host Defense	Lab 8: Normal Flora / Pathogens of the Nose and Throat
13	Nov 28, 30	Lec. 11: Viruses	Lab 9: ELISA for Tracking an HIV Epidemic
14	Dec 5, 7	Lec. 12: Emerging Infectious Diseases	<b>NO LAB</b>

**Important Dates:**

September 19: Fee Deadline  
 October 9: Thanksgiving Day  
 October 20: Final Exam Schedule Posted  
 November 7: Withdraw Deadline – last day to withdraw or change to audit  
 November 13: Remembrance Day (observed)  
 December 9: Last day of classes  
 December 11-19: Final Exam period

## 5. Basis of Student Assessment (Weighting)

Lab write-ups	10%
Assignment #1	5%
Assignment #2	5%
Pathogen Book Project	10%
Lecture Midterm	15%
Lecture Final	30%
Lab exam (Take Home Exam)	25%

## 6. Grading System

### 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	Minimum level of achievement for which credit is granted; a course with a "D" grade cannot be used as a prerequisite.	1
0-49	F	Minimum level has not been achieved.	0

### 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 E-1.5 at [camosun.ca](http://camosun.ca) 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, due to design may require a further enrollment in the same course. No more than two IP grades will be assigned for the same course. (For these courses a final grade will be assigned to either the 3 <sup>rd</sup> course attempt or at the point of course completion.)
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.

## 7. Recommended Materials or Services to Assist Students to Succeed Throughout 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](http://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.

### Plagiarism

Plagiarizing is appropriating the work or parts or passages of another's writing (including the ideas or language) and passing them off as the product of one's own mind or manual skill (see <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.5.1.pdf>).

Plagiarism is a serious offence and is considered to be academic misconduct, and so **will not be tolerated**. Except where work is assigned to a group, all written work, **including lab data processing** and graphs, must be done individually.

### Cheating

A student caught cheating on an exam will forfeit all credit for that exam and perhaps for the course. Cheating is a serious offence and is considered to be academic misconduct. Cheating includes, but is not limited to:

- (a) using unauthorized materials or resources in a quiz/exam, and
- (b) providing information to another person regarding exam content.

The consequences for cheating and plagiarism are outlined by Camosun College policies (see <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.5.pdf>) and penalties may be severe.

### Student Safety

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

<b>Lab footwear</b>	<ul style="list-style-type: none"><li>For safety reasons <b>WorkSafeBC</b> mandates that students are <b>required</b> to wear closed shoes in all lab times. Flip flops, sandals or shoes with holes are not acceptable.</li></ul>
<b>Lab Coats</b>	<ul style="list-style-type: none"><li>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.</li><li>While in the lab the lab coat must be completely buttoned.</li><li>The lab coat must <b>NEVER</b> be worn outside of the lab. If you must leave the lab for any reason you must remove your lab coat.</li></ul>
<b>Eating &amp; drinking</b>	<ul style="list-style-type: none"><li>Eating or drinking anything in the lab is a violation of federal regulations, so absolutely <b>NOTHING</b> may be ingested while in the lab. Chewing gum and applying makeup or lip balm are similarly prohibited. <b>NO EXCEPTIONS</b> will be made, even for medications.</li><li>If something must be consumed, then it may be taken out of the lab.</li></ul>
<b>Hair</b>	<ul style="list-style-type: none"><li>It is recommended that long hair be tied securely to prevent it from being exposed to lab equipment.</li></ul>
<b>Handwashing</b>	<ul style="list-style-type: none"><li>Hands should be thoroughly washed <b>AFTER</b> removing lab coats and <b>BEFORE</b> leaving the lab.</li></ul>

### 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 (after a five-minute grace period) 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.

## Missed Exams

**Without exception**, 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:

- (a) notifies the instructor **in advance** of the exam (not after), and
- (b) 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.

## Written Work

Lecture and lab assignments may be assigned at the instructor's discretion. It is the student's responsibility to be informed of any work expected and the dates the work is due. 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. Each person in a group will receive the same mark on any group work.

Unless otherwise indicated, all submitted written material (including numerical entries in data tables) must be prepared using word processing (typically MS Word) or graphing software (e.g. Excel). The only exceptions are calculations and **some** graphs, which may be submitted handwritten or hand drawn. **Any exceptions will be clearly indicated.** Work submitted inappropriately formatted, which includes last-minute handwritten corrections, will not be marked until all formatting is correct. Since correcting formatting requires time, this will likely mean a late penalty will be assessed.

## 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 15% 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 assignments and for general studying. Joining a study group can help make this more fun.

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. 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 is prohibited in the lab.
8. All laboratories start punctually.