



COURSE OUTLINE

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.

1. Instructor Information

(a)	Instructor:	Larry Anthony		
(b)	Office Hours:	TBD		
(c)	Location:	F252B		
(d)	Phone:	250-370-3388	Alternative Phone:	
(e)	Email:	anthonyl@camosun.bc.ca		
(f)	Website:	http://online.camosun.ca/		

2. Intended Learning Outcomes

(No changes are to be made to these Intended Learning Outcomes as approved by the Education Council of Camosun College.)

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

1. Describe the process of prokaryotic DNA replication. Explain the mechanisms of gene expression and regulation. Describe the principles of mutation: classification, induction, selection and repair. Compare and contrast the mechanisms of bacterial DNA acquisition and recombination.
2. Demonstrate a detailed knowledge of current techniques and applications of recombinant DNA technology. Outline the steps involved in the preparation of recombinant DNA and the expression and detection of cloned DNA. Describe the uses of bacterial and viral cloning vectors.
3. Explain the principles of microbial genomics. Outline the steps involved in whole genome sequencing. Discuss the principles of bioinformatics and functional genomics.
4. Describe the relationship between normal microbiota and the human host. Discuss the role of physical and chemical barriers in non-specific host resistance. Explain the activation and consequences of inflammation, complement, phagocytosis and fever responses.
5. Discuss the role of adaptive immunity in host resistance. Identify the function of cytokines, interleukins and interferons in the immune response. Describe the role of each of the T cell subsets in cell-mediated immunity. Describe the role of B cells in humoral immunity. Explain the functions of the five classes of antibody and describe their structural and chemical characteristics.
6. Classify host parasite relationships. Explain the role of invasiveness, adherence factors and toxigenicity in the pathogenesis of bacterial diseases. Discuss the pathogenic properties of viruses. Discuss the principles of epidemiology of infectious diseases.
7. Conduct experiments to demonstrate techniques in clinical microbiology, recombinant DNA technology, bacterial genetics, and food and water analysis. Collect and assess data; present written laboratory reports.

3. Required Materials

- (a) Text: Prescott's Microbiology, 9th Edition (Available at Bookstore)
- (b) Other: Biol 202-203 Lab Manual, Camosun College

4. Course Content and Schedule

(This section can include: class hours, lab hours, out of class requirements and/or dates for quizzes, exams, lectures, labs, seminars, practicums, etc.)

Class / Lab Schedule:

Lecture: Tue 13:30 – 14:20 (F216)
Wed 13:30 – 14:20 (F302)
Fri 13:30 – 14:20 (F216)

Lab (001A) Wed 9:30 – 12:20 (F222)
Lab (001B) Wed 15:30 – 18:20 (F222)

Course Content: See Last Page

5. Basis of Student Assessment (Weighting)

(This section should be directly linked to the Intended Learning Outcomes.)

Major Interim Assessments (6)	36%
Lab Exam 1	10%
Lab Exam 2	15%
Assignments / Quizzes / Study Journal	14%
Lecture Final Exam (Cumulative)	25%

6. Grading System

(No changes are to be made to this section unless the Approved Course Description has been forwarded through the Education Council of Camosun College for approval.)

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 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. <i>(For these courses a final grade will be assigned to either the 3rd course attempt or at the point of course completion.)</i>
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.

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 of another 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. **Plagiarism will not be tolerated.** All written material must be done individually. This **includes lab data and graphs**. Lab work may be performed in groups but any material submitted for grading must be processed and submitted independently, **unless otherwise instructed**. Plagiarism, **including the copying of any part of assignments or lab assignments**, is a serious offence and is considered to be academic misconduct.

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, using unauthorized materials in a quiz/exam and 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-&-support/e-2.5.pdf> and <http://camosun.ca/about/policies/education-academic/e-2-student-services-&-support/e-2.5.1.pdf>) and may be severe.

Lab Attire

For safety reasons students are **required** to wear closed shoes in all lab times. Flip flops, sandals or shoes with holes are not acceptable.

The wearing of lab coats at all lab sessions is **absolutely mandatory** for both safety and professional reasons. Cloth coats are preferable but disposable ones are acceptable. If you forget your lab coat you may rent one at a cost of \$5. The money received through lab coat rental will be donated to **Spread the Net**, an organization that supplies insecticide-impregnated bed nets to help prevent the spread of malaria in Africa.

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 pre-lab assessment credit.

Laboratory Attendance

The laboratory experience is critical to the course objectives and so attendance throughout the entire laboratory session is mandatory and will be noted. 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 or more weeks, missing one of the weeks without instructor approval will result in a pro-rata reduction in the grade for any assignment associated with that lab.

Missed Exams

Without exception, all exams must be written at the scheduled times. **Under no circumstances will a make-up exam be administered.** 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 (a) the instructor is notified in advance of the exam (**not after**) and (b) the student provides **documented evidence** of the circumstance (i.e. medical certificate). **Without exception**, the accommodation will be in the form of adjusting the weighting of the final exam to make up the missing marks. In such cases, the final exam will include extra questions to thoroughly examine knowledge of the untested subject matter.

Please note:

*** 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.

Other Instructions

Unless otherwise indicated, all written material to hand in must be prepared using a word processor. Where appropriate, MS Word templates will be provided for this purpose by posting on the course D2L website; these templates should not be altered except to complete the blank areas. All written work must be submitted in **hard copy**, not e-mailed or posted to the D2L website. This is for purely practical reasons: printing out many assignments is problematic because instructors use shared-access printers and documents or parts of documents can go missing easily. Always be on the lookout for special instructions. Finally, unless otherwise instructed, graphs must be prepared using software with graphing capability (e.g. Excel).

Late Penalties

All assignments must be handed in on the scheduled date **before 4:30 PM**. If the instructor is not in the office then slide your work under the office door. Late assignments will be graded but marks equivalent to 15% of the total value of the assignment will be deducted per day past the deadline. Please note that weekends only count as one day.

Summary of Student Responsibilities

1. It is believed that attending and actively engaging in lecture times is 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 are expected to hand in any required reports on time. Late assignments will be penalized (see above).
3. All written work (including numerical entries in data tables) is to be submitted in word processed form.
4. Any evaluation of work for in-class/lab assignments, reports and/or participation will not be given if a student is not present for any reason.
5. Students are expected to work independently on reports unless instructed that the evaluation is based on group effort and evaluation.
6. Students must know and follow all Safety Rules and Procedures. Students must sign the Safety Contract before participating in any laboratory activity. Failure to follow the Safety Rules and Procedures will result in penalties at the discretion of the instructor.
7. Eating or drinking is **strictly prohibited** and failure to comply may result in expulsion from the lab and loss of any associated lab credit. **No exceptions** will be tolerated.
8. **All students must wear a lab coat during laboratory sessions.** Failure to bring a lab coat to the lab may result in being unable to work in the lab and loss of credit for the lab.
9. Students must turn off cell phones and pagers during lectures and laboratory sessions.
10. All laboratories start punctually. 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.

Biology 203 - W14 - Course Schedule (Note: Scheduled dates are subject to change)

Topics may be added or deleted depending upon time constraints

Wk	Day	Date	Unit	Lecture Topic	Ch	Lab	Lab Activity
1	Tue	7-Jan		Course Introduction			
1	Wed	8-Jan	1	Microbial Interactions	32	0	Technique Review
1	Fri	10-Jan	1	Microbial Interactions	32		
2	Tue	14-Jan	1	Microbial Interactions	32		
2	Wed	15-Jan	2	Innate Host Resistance	33	11	Enterobacteriaceae
2	Fri	17-Jan	2	Innate Host Resistance	33		
3	Tue	21-Jan	2	Innate Host Resistance	33		
3	Wed	22-Jan	2	Innate Host Resistance	33	12	Cocci
3	Fri	24-Jan		MAJOR INTERIM ASSESSMENT 1			
4	Tue	28-Jan	2	Innate Host Resistance	33		
4	Wed	29-Jan	2	Innate Host Resistance	33	13	Unknown Bacteria
4	Fri	31-Jan	3	Acquired Host Resistance	34		
5	Tue	4-Feb	3	Acquired Host Resistance	34		
5	Wed	5-Feb	3	Acquired Host Resistance	34	13	Unknown Bacteria
5	Fri	7-Feb		MAJOR INTERIM ASSESSMENT 2			
6	Tue	11-Feb	3	Acquired Host Resistance	34		
6	Wed	12-Feb	3	Acquired Host Resistance	34		TBD
6	Fri	14-Feb		READING BREAK	34		
7	Tue	18-Feb	3	Acquired Host Resistance	34		
7	Wed	19-Feb	3	Acquired Host Resistance	34		LAB EXAM
7	Fri	21-Feb		MAJOR INTERIM ASSESSMENT 3			
8	Tue	25-Feb	4	Microbial Pathogenesis	35		
8	Wed	26-Feb	4	Microbial Pathogenesis	35	17A / 17B	Coliform Detection
8	Fri	28-Feb	4	Microbial Pathogenesis	35		
9	Tue	4-Mar	5	Epidemiology	37		
9	Wed	5-Mar	5	Epidemiology	37	17C / 17D	Coliform Detection
9	Fri	7-Mar		MAJOR INTERIM ASSESSMENT 4			
10	Tue	11-Mar	5	Epidemiology	37		
10	Wed	12-Mar	6	DNA Replication, Expression & Regulation	13		TBD
10	Fri	14-Mar	6	DNA Replication, Expression & Regulation	13		
11	Tue	18-Mar	6	DNA Replication, Expression & Regulation	13		
11	Wed	19-Mar	6	DNA Replication, Expression & Regulation	13		TBD
11	Fri	21-Mar		MAJOR INTERIM ASSESSMENT 5			
12	Tue	25-Mar	7	Mutagenesis & Recombination	16		
12	Wed	26-Mar	7	Mutagenesis & Recombination	16	19	Food & Milk Analysis
12	Fri	28-Mar	7	Mutagenesis & Recombination	16		
13	Tue	1-Apr	8	DNA Acquisition	16		
13	Wed	2-Apr	8	DNA Acquisition	16	19	Food & Milk Analysis
13	Fri	4-Apr		MAJOR INTERIM ASSESSMENT 6			
14	Tue	8-Apr	9	Recombinant DNA Technology	17		
14	Wed	9-Apr	9	Recombinant DNA Technology	17		LAB EXAM
14	Fri	11-Apr	9	Recombinant DNA Technology	17		
	Mon	14-Apr		FINAL EXAM PERIOD BEGINS			