CAMOSUN COLLEGE	**School of Arts & Science** **BIOLOGY DEPARTMENT** **BIOL 103 - 002** **Non-Majors General Biology** **Fall 2016**

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:	Geoff Morris
(b)	Office Hours:	Tuesday 4:00-5:30; Wednesday 12:30-4:00
(c)	Location:	Fisher 352
(d)	Phone:	250-370-3909
(e)	Email:	morrisg@camosun.bc.ca
(f)	Website:	https://online.camosun.ca/ (D2L)

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 concept of homeostasis.
2. Explain how basic physicochemical changes can impact cell function.
3. Work in a culture of scientific endeavor and use critical thinking skills.
4. Identify the critical roles played by water in the maintenance of life on earth.
5. Explain the structures and roles of biological macromolecules, particularly carbohydrates, proteins and lipids.
6. Describe the complexity and diversity of cellular ultrastructure and the functions of significant cellular organelles, in particular chloroplasts, mitochondria, ribosomes, Golgi apparatus, cilia and flagellae.
7. Describe basic metabolism and energy producing pathways within the cell.
8. Explain the concept of the gene in the contexts of both Mendelian inheritance as well as the biochemical expression of genetic information.
9. Relate the structure of nucleic acids to the storage and replication of genetic information.
10. Explain the mechanisms used to regulate and translate genetic information into the assembly of functional proteins.
11. Describe the interactions between the environment and long-term changes in genetic information, particularly in consideration to neoplasia.
12. Describe the anatomy of the human digestive, cardiovascular and excretory systems and explain how the physiology of these organ systems is related to organization at the molecular and cellular level.
13. Describe the structure and explain the functions of the human immune system. Apply this knowledge to immune dysfunction, particularly allergies and AIDS.

3. Required Materials

(a) Recommended Textbook: Openstax by Rice University, 2013. Concepts of Biology. Available to download for free at openstax.org/details/concepts-biology and also posted on our class website (D2L). A shortened hard copy version (only the chapters we will use) is available to purchase at the Camosun Bookstore, Lansdowne Campus.

(b) Lab Manual: Biology 103 Lab Manual (Fall 2016), Camosun College. Available in the Camosun Bookstore, Lansdowne Campus. Also note that you will need a regular scientific calculator for the labs – you will not be able to use your smart phone as a calculator!

(c) Lecture Outlines: Lectures will be delivered in a PowerPoint format. PowerPoint slides will be made available on the Biology 103 D2L website. These may be used or printed at the student's discretion to help follow the lectures.

4. Course Schedule

Lectures:	Tuesday	6:00 PM – 7:20 PM	Fisher 200
	Wednesday	4:30 PM – 5:50 PM	Fisher 100
Lab Section A:	Wednesday	6:30 PM – 9:20 PM	Fisher 226
Lab Section B:	Friday	12:30 PM – 3:20 PM	Fisher 226

5. Basis of Student Assessment (Weighting)

Lab Assignments:	7.5%
Lecture Assignments:	7.5%
Exams:	
Midterm 1	15%
Midterm 2	15%
Lab Exam 1	15%
Lab Exam 2	15%
Final Exam:	25%

Midterms I and II, as well as the lab exams, will be unit exams.
The final lecture exam will be cumulative.
Please bring a pen and pencil to all exams.

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	*Incomplete*: 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	*In progress*: 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 3rd course attempt or at the point of course completion.)*

CW	*Compulsory Withdrawal:* 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 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:

Lab footwear	• 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.
Eating & drinking	• 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	• It is recommended that long hair be tied securely to prevent it from being exposed to lab equipment.
Handwashing	• 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 (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 Lecture Exams

Without exception, all lecture 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.

Without exception, the accommodation will be in the form of adjusting the weighting of the final exam to make up the missing marks. **Under no circumstances will a make-up lecture exam be administered**. In such cases, the final exam will include extra questions to thoroughly examine knowledge of previously untested subject matter.

Missed Lab Exams

Lab exams differ from lecture exams in their formatting and the fact that they cover lab content in a non-cumulative manner. Administering a makeup lab exam will be at the discretion of the instructor.

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 written material to hand in (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**. 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 for each day past the deadline (weekends only count as one day).

Study Habits
You will probably find Biology 103 not very difficult, but surprisingly labor-intensive. 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 notes will be provided in point form. 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.

Biology 103 – F2016 - Course Schedule
(Note: Scheduled dates are subject to change)
Topics may be added or deleted depending upon time constraints

WK	WEEK OF	LECTURE TOPICS	TEXT CH.	LAB #	LAB TOPICS
1	Sept. 5 - 9	Course Introduction Scientific Method Biochemistry Basics Water & pH	1 2	-	Safety / Meet / Greet / Practice
2	Sept. 12 - 16	Organic Macromolecules Cell Biology	2 3	1	Measurements & Equipment
3	Sept. 19 - 23	Energetics Cell Membranes/ transport	3 4	2	Microscopes & Cells
4	Sept. 26 - 30	Enzymes Cellular Respiration	4	3	Organic Macromolecules
5	Oct. 3 - 7	**MIDTERM EXAM 1** **(Tues. Oct. 4th)** Cell Division / Mitosis	 6	4	Diffusion & Osmosis
6	Oct. 10 - 14	Meiosis Mendelian Genetics	7 8	5	Enzymes
7	Oct. 17 - 21	Sex-linked traits Inheritance Patterns	8	-	**LAB EXAM 1**
8	Oct. 24 - 28	DNA Replication Protein Synthesis	9	6	Mitosis & Meiosis
9	Oct. 31 – Nov. 4	Transcription/Translation Mutations	9	7/8	Genetics (Fingerprint lab & Cat lab)
10	Nov. 7 - 11	**MIDTERM EXAM 2** **(Tues. Nov. 8th)** Gene Expression/Control Cancer	 10	-	NO LABS (Remembrance Day)
11	Nov. 14 - 18	Homeostasis Excretion	16	9	Nutrition
12	Nov. 21 - 25	Nutrition Digestion	16	10	Human Physiology
13	Nov. 28 – Dec. 2	Circulation Respiration	16	10	Human Physiology
14	Dec. 5 – 9	Immune System	17	-	**LAB EXAM 2**
	Dec. 12 – 20	Exam Period **FINAL EXAM TBA**	-	-	-