



### COURSE OUTLINE

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

#### 1. Instructor Information

|     |               |   |                    |     |
|-----|---------------|---|--------------------|-----|
| (a) | Instructor:   | Jane Gair, PhD  |                    |     |
| (b) | Office Hours: | Mon 1:00 – 2:00 PM / Wed 2:30 – 3:30 PM / Fri 2:30 – 3:30 PM    |                    |     |
| (c) | Location:     | F352  |                    |     |
| (d) | Phone:        | (250) 370-3909  | Alternative Phone: | n/a |
| (e) | Email:        | gairj@camosun.bc.ca   |                    |     |
| (f) | Website:      | <a href="http://online.camosun.ca">http://online.camosun.ca</a> |                    |     |

#### 2. Intended Learning Outcomes

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

1. Classify and describe the unique structure and function of the four groups of macromolecules and discuss how these relate to their properties within living cells.
2. Differentiate among the various transport mechanisms available to mobilize molecules across cell membranes.
3. Name and outline the pathways utilized by cellular respiration and photosynthesis and explain the importance of these processes to living organisms.
4. Describe the basic steps of DNA replication and indicate its role in cell division and inheritance.
5. Demonstrate knowledge of the basic steps of protein synthesis, identifying the roles of DNA, mRNA, tRNA, amino acids and proteins in the processes of transcription and translation.
6. Identify and explain the principles and consequences of the cell cycle, including both mitosis and meiosis.
7. Examine the basic principles of Mendelian genetics and describe how these relate to other topics encompassed in this course.
8. Describe and explain the role of growth regulators in the control of plant growth, development and physiology.
9. Describe and explain the diversity of control mechanisms in animal systems, including the role of the endocrine and nervous systems.
10. Conduct experiment tests and use analytical techniques in the laboratory to demonstrate a few biological properties of macromolecules, cellular respiration, photosynthesis, DNA technology and plant and animal control systems.

#### 3. Required Materials

- 1) Textbook: Campbell, N. A. & J. B. Reece. 2011. Biology, 9<sup>th</sup> ed., Pearson Education, Inc., San Francisco, CA.
- 2) Camosun College Biology Faculty. Winter, 2013. Biology 126 Lab Manual, Camosun College, Victoria, B.C.

#### 4. Course Content and Schedule

##### Lecture

Tues, Wed and Fri 1:30 – 2:20 Y310

##### Lab

Section 001A Mon 2:30 – 5:20 F238

Section 001B Tues 2:30 – 5:20 F238

The schedule, which follows, is an attempt to outline the weekly activities of the class. It is subject to change or modification as the need arises.

| Date  | Lecture Topic                                       | Ch.      | Laboratory Exercise                                  |
|---|---|----------|--|
| Sept 2 - 6  | Introduction & Characteristics of Life              | 1,4,5    | Lab Introduction                                     |
| Sept 9 - 13   | Metabolism - Introductory                           | 8        | Tools for Scientific Discovery                       |
| Sept 16 - 20  | Glycolysis & Respiration                            | 9        | Enzyme Activity                                      |
| Sept 23 - 27  | Respiration completed<br>Photosynthesis             | 9<br>10  | Respiration  |
| Sept 30 – Oct 4                                     | Photosynthesis                                      | 10       | Fermentation & Cellular Respiration                  |
| Oct 7 – 11  | The Cell Membrane<br><b>Oct 9 Lecture Exam 1</b>    | 7        | Photosynthesis                                       |
| <b>October 14 Thanksgiving Day - College closed</b> |   |          |  |
| Oct 14 – 18   | The Cell Membrane                                   | 7        | <b>NO LAB this week (holiday Monday)</b>             |
| Oct 21 - 25   | Intracellular Communication<br>Mitosis & Cell Cycle | 11<br>12 | <b>Midterm Lab Exam (Oct 21 &amp; 22)</b>            |
| Oct 28 – Nov 1                                      | Mitosis<br>Meiosis                                  | 12<br>13 | Movement of Molecules                                |
| Nov 4 - 8   | Sources of Variation<br><b>Nov 6 Lecture Exam 2</b> | 14 - 16  | Mitosis & Meiosis<br>Fruit Fly Eye Pigments (Part 1) |
| <b>November 11 Remembrance Day – College Closed</b> |   |          |  |
| Nov 11 - 15   | Inheritance<br>DNA Replication                      | 15, 16   | <b>NO LAB this week (holiday Monday)</b>             |
| Nov 18 - 22   | DNA Replication                                     | 16       | Fruit Fly eye Pigments (Part 2)<br>DNA Lab (Part 1)  |
| Nov 25 - 29   | Protein Synthesis                                   | 17       | DNA Lab (Part 2)                                     |
| Dec 2 - 6   | Protein Synthesis<br>Regulation of Gene Expression  | 17<br>18 | <b>Lab Final (Dec 2 &amp; 3)</b>                     |

## 5. Basis of Student Assessment (Weighting)

|                          |                                |       |
|--------------------------|--------------------------------|-------|
| Lab Exam I               | Oct. 21 & 22                   | 12.5% |
| Lab Exam II              | Dec. 2 & 3                     | 12.5% |
| Midterm I                | Oct. 9                         | 12.5% |
| Midterm II               | Nov. 6                         | 12.5% |
| Final Lecture Exam       | TBA (during final exam period) | 30%   |
| Assignments/labs/quizzes |                                | 20%   |

\*\*\* Lab exams will be unit exams. Lecture exams will be cumulative.

## 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 you throughout your 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 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**; although some lab work will be done in groups, material submitted for grading must be processed and submitted independently. 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.

### ADDITIONAL INFORMATION

#### Office Hours

There are posted office hours where you can come and drop by to see me with any questions that you might have in F352. If you cannot make these office hours, please feel free to email me ([gairj@camosun.bc.ca](mailto:gairj@camosun.bc.ca)) with any questions, or you can always set up an appointment with me to meet outside of office hours. I am committed to being available for you, so please feel free to contact me whenever you need to!

No programmable devices are allowed in exams.

## Missed Exams

**Without exception**, all lecture and lab 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 examine knowledge of the untested subject matter.

**\*\*HOLIDAYS OR SCHEDULED FLIGHTS ARE NOT CONSIDERED TO BE EMERGENCIES \*\*\*\***

Be sure not to plan airline flights for the end of semester until the final exam schedules are finalized and posted.

## Late Penalties

Assignments are due at the **beginning** of the class period on the due date. Assignments not handed in at the beginning of class will be considered late, for which there is a 10% penalty/day.

**Note:** There is the option of 1 free late assignment. There will be no penalty provided the assignment is received **prior** to it being marked and returned to the class. Any assignment received after its return to the rest of the class will be marked but will not receive credit.

## Lecture Attendance

Attending lectures will be an important part of succeeding in this course. From time to time there will be quizzes and other in-class activities for marks that will also help you and I determine how you are doing with the material. If you know that there is a lecture that you will miss where an announced activity will take place, you must let me know ahead of time and have a legitimate reason to miss it (e.g. an emergency or an illness with documented evidence). The lecture PPT presentations will be posted on <http://online.camosun.ca> but there will be much more information provided during lecture time that you won't want to miss!

## 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.

Arriving more than **5 minutes** after the start of the lab time is considered late and will only be acceptable one time or with a legitimate excuse.

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.

Please note that **lab coats are mandatory** in the lab at all times. If you forget your lab coat, you can rent one for \$5. You cannot remain in the lab if you are not wearing a lab coat. Please make sure that you bring your lab coats with you each week.