

**COURSE OUTLINE**  
Grading Systems

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**School of Arts & Science**

**BIOL 103 Non-Majors General Biology**  
**WINTER 2014**

**COURSE OUTLINE**

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**1. Information**

Course Description

This course is for the student interested in learning about the basics of the structure and function of living beings. Topics include cell biology, human anatomy and physiology, basic principles of biochemistry, genetics and nutrition.

**Prerequisites:** English 12 or equivalent or be enrolled in English 12 or equivalent while taking this course

Time and Location

| Section | Lab Time               | Class Time                                    |
|---------|------------------------|---|
| 004 A   | Th 11:30-2:20PM (F226) | Tu 1:00-2:20PM (F202)<br>F 1:00-2:20PM (F202) |
| 004 B   | F 8:30-11:20AM (F226)  | Tu 1:00-2:20PM (F202)<br>F 1:00-2:20PM (F202) |

**2. Instructor Information**

Instructor: David Raju

Office hours: TBA

Office location: F 342A

e-mail: raju@camosun.bc.ca

**3. Required Materials**

BIOL 103 Laboratory Manual. **Winter 2014**. Camosun College Biology Faculty.

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#### 4. Content and Schedule

The following tentative schedule is subject to change if deemed necessary by the instructor.

| <b>WK</b> | <b>DATE</b><br>(week of) | <b>Tuesday (Tu) and Friday (F)</b><br><b>TOPIC</b>  | <b>Lab #</b> | <b>Thu/Fri LAB TOPICS</b><br><b>(Lab )</b>    |
|-----------|--------------------------|---|--------------|---|
| 1         | Jan 6                    | Tu – Course Introduction<br>F - Introduction to Biology                                   |              | Greetings/Safety<br>Buffers/Scientific Method |
| 2         | Jan 13                   | Tu/F - Cell Structure and Function 1,2  | 1            | Measurements & Equipment                      |
| 3         | Jan 20                   | Tu/F - Biochemistry 1,2   | 2            | Microscopes & Cells                           |
| 4         | Jan 27                   | Tu/F - Cell Membrane 1,2  | 3            | Macromolecules                                |
| 5         | Feb 3                    | Tu/F - Enzymes 1,2  | 4            | Diffusion/Osmosis                             |
| 6         | Feb 10                   | Tu – <b>LECTURE 1 EXAM Group</b><br>F – <b>NO CLASS</b>                                   |              | <b>NO LAB</b>                                 |
| 7         | Feb 17                   | Tu – <b>LECTURE 1 EXAM Individual</b><br>F – Lab 1 Exam Review<br>Take up Lecture 1 Exams | 5            | Enzymes                                       |
| 8         | Feb 24                   | Tu/F - Introduction to Genetics 1,2   |              | <b>LAB EXAM 1</b>                             |
| 9         | Mar 3                    | Tu/F - Genetics 3,4   | 6            | Mitosis/Meiosis                               |
| 10        | Mar 10                   | Tu – Anatomy/Physiology 1<br>F – Nutrition 1  | 7/8          | Genetics                                      |
| 11        | Mar 17                   | Tu – Nutrition 2<br>F – Anatomy/Physiology 2  | 9            | Nutrition                                     |
| 12        | Mar 24                   | Tu – <b>LECTURE 2 EXAM Class</b><br>F – Lab Exam 2 Review                                 | 10           | Human Organ Systems                           |
| 13        | Mar 31                   | Tu/F – Anatomy/Physiology 3,4   |              | <b>LAB 2 EXAM</b>                             |
| 14        | Apr 7                    | Tu/F – Anatomy/Physiology 5,6   |              | Genetics Artificial Blood<br>Mystery Lab      |

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### 5. 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.

### 6. Basis of Student Assessment

|                     |     |
|---------------------|-----|
| Lab Assignments     | 30% |
| Lecture Assignments | 40% |
| Lecture Exam 1 A/B  | 5%  |
| Lecture Exam 2 A/B  | 5%  |
| LAB EXAM 1          | 10% |
| LAB EXAM 2          | 10% |

Lab exams will be unit exams.

Please bring a pen *and* pencil to all exams.

### 7. Grading System

The following percentage conversion to letter grade will be used:

|                |               |              |
|----------------|---------------|--------------|
| A+ = 90 - 100% | B+ = 77 - 79% | C = 60 - 64% |
| A = 85 - 89%   | B = 73 - 76%  | D = 50 - 59% |
| A- = 80 - 84%  | B- = 70 - 72% | F = 0 - 49%  |
|                | C+ = 65 - 69% |              |

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### **ADDITIONAL INFORMATION**

#### **General:**

Be sure that you are familiar with the General Department Policies, which are stated in the lab manual. A student conduct code will also be observed.

### **ACADEMIC CONDUCT POLICY**

There is an Academic Conduct Policy. It is the student's responsibility to become familiar with the content of this policy. The policy is available in each School Administration Office, Registration, and on the College web site in the Policy Section.

[www.camosun.bc.ca/divisions/pres/policy/2-education/2-5.html](http://www.camosun.bc.ca/divisions/pres/policy/2-education/2-5.html)

Please note: Plagiarism will not be tolerated in any form, and may result in "0".

No programmable devices are allowed in exams.

Each student is required to sign a Laboratory Safety Contract and give it to the instructor prior to commencing laboratory work in the course.

#### **Attendance:**

You are expected to attend all classes and labs, and be on time. It is your responsibility to acquire *all* information given during a class missed, incl. notes, hand-outs, assignments, changed exam dates etc.

#### **Exams:**

**Missed lab exams cannot be made up. Missed lecture exams cannot be made up except in case of documented emergency or illness (doctor's note required). Unless prevented by emergency, you need to contact the instructor prior to the exam being missed in order to be eligible for the make-up exam.**

#### **Labs and Case Studies:**

You need to attend. Please come prepared with a pencil and a few sheets of unlined and graph paper, in case drawings are required. **YOU CAN NOT TURN IN A LAB OR CASE STUDY FOR MARKS IF YOU DID NOT PARTICIPATE IN THE ACTIVITY DURING ITS SCHEDULED TIME PERIOD!**

#### **Assignments:**

Unless otherwise stated, all assignments are due at the *beginning* of the lab/class of the due date. A **professional format** is expected, i.e. a neat, legible, clean copy. "Rough" drafts risk rejection and a subsequent late penalty or reduced marks. If the assignment is more than one page, separate pages **must be stapled**.

### **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, Registrar's Office or the College web site at <http://www.camosun.bc.ca>