

SAMPLE COURSE OUTLINE

Creation date: November 25, 2020

Revision date:

Course Code, Number, and Title:

BIOL 1115: General Biology I

Course Format:

[Course format may vary by instructor. The typical course format would be:]

Lecture 4.0 h + Seminar 0.0 h + Lab. 2.0 h

Credits: 4.0

Transfer Credit: For information, visit bctransferguide.ca

Course Description, Prerequisites, Corequisites:

Students majoring in science are introduced to cell and molecular biology with a strong emphasis on evolution. Through lectures and laboratories, students acquire the theoretical background and hands-on skills necessary to succeed in upper level biology courses. Topics of study include physical and chemical properties of living matter, atoms and molecules, molecular transformations essential to life, biological information flow, cellular structures and functions, cell energetics, cell division, heredity, and population genetics.

Prerequisites(s): A minimum "C" grade in one of the following: BIOL 1111, 1118, 1175, or 1218; or a minimum "C+" grade in Life Sciences 11 (or equivalent), or Anatomy and Physiology 12 (or equivalent); and a minimum "C+" grade in Chemistry 11, CHEM 1114, 1117, or 1217; and one of the following: LET 3, LEAP 8, a minimum "C+" grade in English Studies 12 (or equivalent), Literary Studies 12 (or equivalent), or English First Peoples 12 (or equivalent); or a minimum "C" grade in CMNS 1115, ENGL 1123, 1127, or 1128, a minimum "C" grade in ENGL 1120, or an "S" grade in ENGL 1107, 1108, or 1110.

Learning Outcomes:

Upon successful completion of this course, students will be able to:

- Apply basic laboratory skills and methodology.
- Use the scientific method to test and explain biological phenomena.
- Explain how atoms are joined by chemical bonds to form molecules and salts.
- Explain the concept of pH and the importance of buffers in biological systems.
- Identify the structures and functions of the major molecules of life including water, lipids, carbohydrates, proteins, and DNA.
- Describe the central dogma of molecular biology, including identifying the roles of proteins, DNA, RNAs and ribosomes in the process of transcription, translation, and gene regulation.

"This generic outline is for planning purposes only".

- Apply bioinformatics techniques to search DNA and protein databases and use the information gathered to create gene maps.
- Identify the basic structures and functions of the major components of prokaryotic and eukaryotic cells especially membranes and organelles.
- Describe how energy is used and transformed in cells and compare the processes of cellular respiration and photosynthesis.
- Identify the process and purposes of cell division and compare mitosis and meiosis.
- Explain the mechanisms of inheritance at the molecular, cellular, and organismal levels.
- Describe how evolution entails changes in the genetic composition of populations with emphasis on natural selection and mutation.

Instructor(s): TBA

Office: TBA

Phone: (604) 323-XXXX

Email: TBA

Office Hours: TBA

Textbook and Course Materials:

[Textbook selection may vary by instructor. An example of texts and course materials for this course might be:]

Biological Science, Freeman et al. Third Canadian Edition.

For textbook information, visit https://mycampusstore.langara.bc.ca/buy_courselisting.asp?selTerm=3|8

Note: This course may use an electronic (online) instructional resource that is located outside of Canada for mandatory graded class work. You may be required to enter personal information, such as your name and email address, to log in to this resource. This means that your personal information could be stored on servers located outside of Canada and may be accessed by U.S. authorities, subject to federal laws. Where possible, you may log in with an email pseudonym as long as you provide the pseudonym to me so I can identify you when reviewing your class work.

Assessments and Weighting:

Final Exam 15%

Other Assessments 85%

(An example of other assessments might be:)

First midterm 12.5%

Second midterm 12.5%

Quizzes (4): 20%

Homework Assignments: 10%

Lab component: 30%

*You need to pass the lab to pass the course

“This generic outline is for planning purposes only”.

Grading System:

Specific grading schemes will be detailed in each course section outline.

| | | | | | | | |
|-----|--------|----|-------|----|-------|----|-------|
| A+: | 90-100 | B+ | 77-79 | C+ | 65-69 | C- | 55-59 |
| A | 85-89 | B | 73-76 | C+ | 65-69 | D | 50-54 |
| A- | 80-84 | B- | 70-72 | C | 60-64 | F | <50 |

Topics Covered:

[Topics covered may vary by instructor. An example of topics covered might be:]

- Introduction and Evolution
- Chemical Context of Life
- Macromolecules (proteins and nucleic acids)
- Macromolecules (carbohydrates and lipids)
- Membrane structure and function
- Cell structure and function
- Energy and enzymes
- Cellular Respiration
- Photosynthesis
- Cell division, mitosis and meiosis
- Mendelian inheritance
- Sex chromosomes and linkage
- Genes and DNA replication
- How genes work

As a student at Langara, you are responsible for familiarizing yourself and complying with the following policies:

College Policies:

[F1004 - Code of Academic Conduct](#)

[E2008 - Academic Standing - Academic Probation and Academic Suspension](#)

[E2006 - Appeal of Final Grade](#)

[F1002 - Concerns about Instruction](#)

[E2011 - Withdrawal from Courses](#)

Departmental/Course Policies:

Information unavailable, please consult Department for details.

“This generic outline is for planning purposes only”.