COQUITLAM COLLEGE
Established 1982

COURSE OUTLINE

Effective Semester: Spring 2024

COURSE INFORMATION

Course Title: Introduction to Biology

Course Number: BIOL 104 **Credits:** 4

Total Weeks: 14 (Fall, Spring)
12 (Summer)

Total Hours: 91

Course Level: ☒ First Year ☐ Second Year
☐ New ☐ Revised Course
☐ Replacement Course

Department: Science **Department Head:** S. Girdhar

Former Course Code(s) and Number(s) (if applicable): N/A

Pre-requisites (If there are no prerequisites, type NONE): None

Co-requisite Statement (List if applicable or type NONE): None

Precluded Courses: N/A

COURSE DESCRIPTION

This course is designed to provide students with a scientific perspective and to introduce general concepts of biology. Topics covered include structure, function, physiology, and reproduction at the cellular and organismal levels of organization, mechanisms of inheritance, evolution and ecological relationships.

LEARNING OUTCOMES

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

- Take an active role in one's own education by taking personal responsibility for learning, learn to explain topics in students own words, understanding the need to stay on top of material given.
- Differentiate between a hypothesis and a theory in writing on exams.
- Discuss the principles of biology as the study of living things including biological hierarchies, chemical processes of the cell, evolution, and ecological principles.
- Improve confidence in scientific knowledge and ability to apply knowledge to related situations.
- Read and discuss articles related to current issues in biology.
- Form opinions on these issues and express and defend those opinions biologically in discussions and written essays.
- Understand the scientific method and critically evaluate scientific information as related to real world problems.
- Cooperate with others working as a group, delegate work to others, collaborate with group.
- Discuss the correlations between environmental and socioeconomic issues.
- Develop laboratory skills appropriate for a student at the non-major level in biological sciences.

INSTRUCTION AND GRADING

Instructional (Contact) Hours:

Type	Duration
Lecture	52
Seminars/Tutorials	
Laboratory	39
Field Experience	
Other (*specify):*	
Total	91

Grading System: Letter Grades ☒ Percentage ☐ Pass/Fail ☐ Satisfactory/Unsatisfactory ☐ Other ☐

Specify passing grade: 50%

Evaluation Activities and Weighting (total must equal 100%)

Assignments: % *Specify number of, variety, and nature of assignments:*	Lab Work: Lab Exercises/Reports 15% Lab Final Exam: 15%	Participation: 5% *Specify nature of participation:*	Project: % *Specify nature of project:*
Quizzes/Test: 10%	Midterm Exam: Midterm 1: 15% Midterm 2: 15%	Final Exam: 25%	Other:

TEXT(S) AND RESOURCE MATERIALS

Provide a full reference for each text and/or resource material and include whether required/not required.

Required Textbook: Taylor, M. R., Simon, E. J., Dickey, J., Hogan, K. A., & Reece, J. B. (2018). Campbell Biology: Concepts & Connections. Pearson.

Required Lab Manual: Dickey J. (2002). Laboratory Investigation for Biology. Pearson

COURSE TOPICS

List topics and sequence covered.

Week	Topic	Chapters
1.	Scientific method, characteristics of life, unity and diversity in the natural world	1
2.	Basic principles of organic and inorganic chemistry.	2, 3
3.	Cell structure and function. Principles of metabolism.	4,5
4.	Energy transformations cellular respiration and photosynthesis	6, 7

5.	Cellular basis of reproduction and inheritance	8
6.	Patterns of inheritance	9
7.	Molecular biology of the gene and DNA technology	10
8.	Microevolution, evolutionary history, and natural selection	13, 14
9.	The origin and evolution of microbial life	16
10.	Evolution of plant and animal diversity	17, 18
11.	The biosphere and biomes	34
12.	Population and community ecology	36, 37
13.	Human ecology and its impact.	38
14.	Final Exam	

NOTES

1. Students are required to follow all College policies. Policies are available on the website at: Coquitlam College Policies
2. To find out how this course transfers, visit the BC Transfer Guide at: bctransferguide.ca
3. This is a lab course. Weekly lab assignments will be introduced and conducted during the lab. Some lab assignments will be completed during class and some will be completed and submitted on a later date. The goals of the labs are to prepare for the lab exam, support concepts in biology and encourage the development of analytical, practical skills. Students are expected to attend all lectures and labs
4. Attendance in the labs is mandatory and any missed work will be assigned a zero grade.
5. Students must achieve a minimum of 50% to pass the course, which includes both lecture and lab components. If a student fails the lab component of the course, a maximum of "P" grade will be given irrespective of the grade received in the lecture component.

Last Reviewed: Spring 2024
Last Revised: Fall 2022