BIOL 025, Biology 25

6 Credits, 6 hours lecture

Course Description

Topics studied include an introduction to biology and the scientific method; the biosphere, ecosystems and communities; cell structure and function, including photosynthesis, cellular respiration, and cell division; principles of genetics and genetic engineering, and evolutionary theory, including biological classification methods and the domains of life.

Alberta Education Course Equivalency: Science 10 (biology unit) and Biology 20.

Pre and Co-requisites

Co-requisites: ENGL 10-2 or ENGL 10-1 or permission from the Program Chair

Course Learning Outcomes (CLOs)

Upon successful completion of the course, the student shall be able to:

CLO 1 appreciate that scientific understanding evolves from the interaction of ideas involving people with different views and backgrounds.
CLO 2 seek and apply evidence using the scientific method when evaluating alternative approaches to investigations, problems and issues.
CLO 3 explain the flow, cycling, and exchange of energy and matter through the biosphere and ecosystems.
CLO 4 explain how the biosphere is composed of ecosystems with distinct biotic and abiotic factors.
CLO 5 demonstrate sensitivity and responsibility in pursuing a balance between the needs of humans and a sustainable environment.
CLO 6 describe the cell theory, and function of cell organelles and structures in a cell, in terms of life processes, and use models to explain these processes and their applications.
CLO 7 relate photosynthesis to storage of energy in organic compounds.
CLO 8 compare and contrast the roles of glycolysis, respiration, and fermentation in releasing potential energy from organic compounds.
CLO 9 describe, in words and in diagrams, the processes of mitosis and meiosis.
CLO 10 explain the basic rules and processes associated with the transmission of genetic characteristics.
CLO 11 explore classical genetics at the molecular level, including several human genetic disorders.
CLO 12 explain several mechanisms involved in the change of populations over time.
CLO 13 describe a community as a composite of populations in which individuals contribute to a gene pool that can change over time.
CLO 14 explain the types of interaction of individuals within and between populations.
CLO 15 describe the fundamental principles of taxonomy and binomial nomenclature, and the defining characteristics of the six kingdoms of life.

Evaluation

Assessment Type	Percentage
Daily work and quizzes	30%
Projects	20%
Midterm Exam (Units 1, 2 and 3)	25%
Final Exam (Units 4 and 5)	25%

Course Completion Requirements

Minimum passing mark of 50% or D is required.

Grading Scale

4.0 Grade Scale	Alpha Grade	Percentage Grade
4.0	A+	93-100
4.0	A	85-92.9
3.7	A-	80-84.9
3.3	B+	77-79.9
3.0	B	74-76.9
2.7	B-	70-73.9
2.3	C+	67-69.9
2.0	C	64-66.9
1.7	C-	60-63.9
1.3	D+	55-59.9
1.0	D	50-54.9
0.0	F	0-49.9

Land Acknowledgement

We respectfully acknowledge that Keyano College is on Treaty No. 8 Territory, the ancestral and traditional territory of the Cree, Dene, and Métis people.

Review Date: November 26, 2024

Students will be notified of any significant changes as soon as possible. Keyano College is not responsible for any inconvenience or disruption caused by these changes. It is the responsibility of the students to stay informed about any updates or modifications to their courses.