BIOL 030 Course Outline

5 credits, 6 hours lecture, 2 hours lab on alternate weeks

Course Description

Topics studied include the scientific method, principles of classification and population ecology, biological macromolecules, DNA and protein synthesis, cells and cell membranes, enzyme structure and function, human body systems (anatomy and physiology) and the concept of homeostasis.

Pre and Co-requisites

Prerequisites: BIOL 025 or equivalent or permission from the Program Chair.

Course Learning Outcomes (CLOs)

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

CLO1 describe the chemical nature of carbohydrates, lipids, proteins, and nucleic acids, including enzyme action and factors influencing their action.
CLO2 describe how genetic information is contained in the sequence of bases in DNA molecules in chromosome, how the DNA molecules replicate themselves, and how genetic information is transcribed into RNA and translated into sequences of amino acids in proteins.
CLO3 explain, in quantitative and qualitative terms, how gene pools change over time.
CLO4 describe the general characteristics of the three domains of life and the fundamental principles of taxonomy and binomial nomenclature.
CLO5 explain population growth patterns and the interactions of individuals within and between populations.
CLO6 explain the relationship between developments in imaging technology and the current understanding of cell types and structures, including the functions of cell organelles and membranes in maintaining homeostasis.
CLO7 describe the levels of organization of matter in creating human tissues and systems.
CLO8 explain the role of the circulatory and defense systems in maintaining an internal equilibrium.
CLO9 explain how the human digestive, respiratory, and excretory systems exchange energy and matter with the environment.
CLO10 explain the role of the musculoskeletal system in the function of other body systems.
CLO11explain how the nervous system controls physiological processes.
CLO12 explain how the endocrine system is a chemical control system that contributes to homeostasis.
CLO13 explain how survival of the human species is ensured through reproduction, and how reproduction is regulated by chemical control systems.
CLO14 show concern for safety in planning, carrying out and reviewing laboratory activities in a biohazard level II laboratory, referring to WHMIS and consumer product labels.
CLO15 work collaboratively in planning and carrying out laboratory investigations and in generating and evaluating scientific ideas.

Evaluation

Assessment Type	Percentage
Daily work and quizzes	15%
Projects and lab reports	15%
Lab Exam	10%
Midterm Exam (Units 1 and 2)	30%
Final Exam (Units 3 and 4)	30%

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: March 4, 2024