Course Title: BIO 182 Unity of Life II: Lives of Multicellular Organisms
Term: Summer 2023
Instructor: TBA
Course Credit: 3
Mode of Instruction: Online

Course Description:

Introductory course for biology majors. Emphasizing the unifying organismal principles of life on earth, this course gives a profound introduction to the major unifying concepts and fundamental principles of biology. It also includes cell biology, physiology, genetics, evolution, biodiversity, ecology and the interaction between humankind and the environment. The teaching strategies in this course will provide all of students a community of biologists to develop leadership and communication skills as well as support each other in understanding biological concepts.

Course Prerequisites:

BIO 181 Unity Of Life I: Life Of The Cell

Learning Outcomes:

By the end of the course, the student should be able to:

A. Demonstrate an understanding of the physiology and basic regulatory concepts related to the function of the organ systems and the mechanisms that allow organisms to carry out those functions;

B. Get acquainted with different biological concepts, theories and methodologies;

C. Use the biological concepts to the phenomena observed in real life;

D. Study the research methods and analyze the results;

E. Develop knowledge background for deeper learning.

Course Material:

Jane B. Reece, Martha R. Taylor, Eric J. Simon, Jean L. Dickey & Kevin G-E. Scott, Campbell, ***Biology: Concepts & Connections***, Canadian Edition, Pearson Canada Inc. Press, 2015.

Evaluation:

- Assignments [20%]
- Lab Reports [20%]
- Mid-term Exam [25%]
- Final Exam [35%]

Description of the Evaluation tasks:

Assignment/ Essay/ ... : During the term, students will be required to finish several evaluation tasks within due date. All the tasks are linked with specific course topics/outcomes and will adequately assess students' competence and learning outcomes. Students are encouraged to meet with instructor about these tasks at any point.

Mid-term/ Final Exams/ Quiz/... : There may be periodic quizzes given at the beginning of lecture sessions; the feedback from these quizzes will monitor the progress of the learners and help to set learning priorities. There will be mid-term exam/ final exam for the course. They are the basic criteria for the evaluation of students' learning outcomes and final grade.

Grading Policy:

Students are supposed to finish each online lecture. Prior to each class, students should finish the required readings. During the class time, students are encouraged to make use of all relevant online course resources and communicate with the instructor. Students' grades

are accumulated based on the cumulative evaluations.

Students' letter grade will be assigned according to the following scale:

A+ 90-100	A 85-89	A- 80-84
B+ 77-79	B 73-76	B- 70-72
C+ 67-69	C 63-66	C- 60-62
D+ 57-59	D 53-56	D- 50-52
F < 50		

Academic Integrity:

Students must strictly adhere to the university's academic integrity rule; and all essays, exams and any other form of academic assignments must adhere to these rules. Any form of plagiarism, cheating, or misappropriation of materials will be considered a violation of academic integrity and will be punishable by the university.

Withdrawal from the Course(s):

Students will be able to apply for a transfer or withdrawal within 3 days of the starting date of the course. If a withdrawal is applied for within 3 working days, the tuition fee will be fully refunded. After 3 days, the tuition fee will not be refunded. If a withdrawal is applied for in the first two weeks, it will be recorded as W (Withdraw) on the course transcript. After this initial two-week period, the class will be recorded as F (Fail).

Tentative Schedule:

1	Course Introduction Exploring Biology
2	The Essential Chemistry of Life **Assignment#1**
3	The Compounds of Cells

4	Cellular Structure
5	Cellular Function **Lab Report#1**
6	How Cells Harvest Chemical Energy
7	How Cells Harvest Chemical Energy (Cont.)
8	Photosynthesis **Assignment#2**
9	The Cellular Basis of Reproduction and Inheritance
10	The Cellular Basis of Reproduction and Inheritance (Cont.) **Lab Report#2**
11	Patterns of Inheritance
12	Molecular Genetics
13	**Midterm Test**
14	Gene Expression **Assignment#3**
15	DNA Technology and Genomics **Lab Report#3**
16	Evolution: In the Beginning
17	Mechanisms of Evolution
18	Speciation and Phylogeny **Assignment#4**
19	Viruses and Other Acellular “Life”
20	Biodiversity of Protists and Fungi **Lab Report#4**
21	Biodiversity of Plants
22	Biodiversity of Invertebrate and Vertebrate Animals
23	Diversity of Plants and Related Organisms
24	Students presentation
25	**Final Exam**