Course Title: BIO 205 Microbiology
Term: Fall 2022
Instructor: TBA
Course Credit: 3
Mode of Instruction: Online

Course Description:

For students majoring in microbiology and those in the health professions, this course emphasize structure and function of organisms, aspects of microbial diversity, pathogenic microorganisms, disease mechanisms and immune response. By studying the course, students are expected to participate in active learning activities and class discussion to deepen their understanding of the microbial world and apply their knowledge to various 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. Understand the concepts of classification, evolution and growth of microbiology;

B. Recognize the structures and processes of microbial genome replication;

C. Appreciate the diversity of microorganisms and microbial communities, and recognize how microorganisms solve the fundamental problems their environments present;

D. Explain the role of microbes in forming and adapting to the Earth's environment;

E. Master the methods of conducting biology labs in a well-organized manner.

NAU NORTHERN ARIZONA UNIVERSITY

Course Material:

Wessner, Dupont, Charles, Neufeld, ***Microbiology***, 2nd Edition, John Wiley & Sons Canada, Ltd. 2017.

Evaluation:

- Lab Reports [40%]
- 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:

Week 1

1	Course Introduction
2	The Microbial World
3	Bacteria
4	The Bacteria Cell Surface
5	The Bacteria Cell Surface (Cont.) **Lab Report 1**

Week 2

6	Archaea
7	Diversity of Archaea
8	Eukaryotes
9	The Origin of Eukaryal Cells
10	The Origin of Eukaryal Cells (Cont.) **Lab Report 2**

Week 3

11	Viruses
12	Diversity of Viruses
13	**Mid-term Exam**
14	Diversity of Viruses (Cont.)
15	Virology Today **Lab Report 3**

Week 4

16	Regulation
17	Bacterial MVPs
18	Bacterial genetics
19	Bacterial genetics (Cont.)
20	Microbial Genomics **Lab Report 4**

Week 5

21	Microbial Genomics (Cont.)
22	Genome-wide gene expression analyses
23	Genome-wide gene expression analyses (Cont.)
24	Final Exam Review
25	**Final Exam**