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81, Oedae-ro, Mohyeon-myeon, Cheoin-gu, Yongin-si, Gyeonggi-do, 17035, Korea

Hankuk University of Foreign Studies

2023 Summer Session

BIOL 120 Human Biology

Course Outline

Course Code: BIOL 120

Instructor: Todd A. Wells, Ph.D.

Home Institution: University of Denver

Office Hours: TBA & By Appointment

Email: todd.wells@du.edu

Credit: 4

Class Hours:

This course will have 52 class hours, including 32 lecture hours, professor 8 office hours, 8-hour TA discussion sessions, 4-hour review sessions.

Course Description: This course is an introduction to basic principles common to all facets of biology. Topics include a brief history of biology, the diversity of life, cell structure and reproduction, and metabolism.

Lecture: The format of class meetings will be a combination of traditional lecture format, problem solving/ group activities, group discussions, and laboratory exercises. I will summarize new material and present illustrations and examples. In lecture, I WILL NOT identify and describe every detail you will read in the text and any supplemental materials. I will, however, emphasize the important topics covered in the reading. You should stop me at any time if you have questions about the material being covered.

Reading: You are expected to complete the assigned reading prior to the class lecture. After lecture, you should reread the assigned text. I recommend that you understand the material and how to solve the sample problems before proceeding to the next section. At the end of each chapter, a summary of important equations and terms is provided that should prove helpful in the

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preparation for exams.

Course Learning Outcomes:

1. Identify the internal and external structures of both the prokaryotic and eukaryotic cells.
2. Recognize energy pathways such as photosynthesis, respiration, and overall cellular metabolism.
3. Knowledge of basics in genetics, molecular/cellular biology.
4. Understanding of principles of evolution and phylogeny.
5. Ability to connect biological knowledge to society issues
6. Appreciation of biological diversity.

Required Textbooks: We will also use an online textbook found at OpenStax Biology (open source e-book): https://openstax.org/details/books/biology-2e

Homework: Each lecture has a group of homework problems assigned to it. The problems are chosen to prepare you for the hour exams. If you understand and can do all the homework, you probably will do well on the exams. To get the most benefit from homework, you should **do the assignments on schedule**. It is important to keep up with these assignments!

In-class Activities: In-class activities will allow you to apply your knowledge. These activities may be more challenging than the assigned homework. You will work in small groups to complete these activities. The in-class activities will be graded.

Exams: There are two hour exams during the course, plus a cumulative final exam. Each exam counts 200 points. Exam problems will be similar to the problems assigned as homework and the problems worked in class.

Grading & Evaluation: Your final grade is based on a maximum of 650 points, distributed as follows:

Hour exams (200 points each)	200 points
Final exam	200 points
Homework	100 points
Lab	400 points

Grading System (1 ~ 100)

The final score with be scaled and the scaled score with be used to assign a Course grade.

A+ : 96 - 100	A : 91 - 95
B+ : 86 - 90	B : 81 - 85
C+ : 76 - 80	C : 71 - 75
D+ : 66 - 70	D : 60 - 65
F : 0 - 59	
Pa : Pass	Fa : Fail

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Course Schedule:

Week 1 (videos 1-5)

1. Introduction, Biological Macromolecules, Chemistry of Life
2. Cellular Structure and Function
3. Bioenergetics: respiration and metabolism
4. The Cell Cycle

Lab1 – Microscopy and the Scientific Method
Lab2 – Enzyme Catalyzed Reactions and Respiration

Week 2 (videos 6-10)

5. Meiosis and Sexual Reproduction
6. Human genetics and Inheritance,
7. Genetic Diseases, DNA Structure and Function
8. Gene expression; Recombinant DNA technology

Lab3 – Mitosis, Meiosis & Genetics
Lab4 – Blood typing and DNA fingerprinting

Week 3 (videos 11-15)

9. Body Organization and tissue
10. Musculoskeletal System
11. Circulatory System - Cardiovascular & Lymphatic
12. Urinary System & Water/Electrolyte

Lab5 – Tissues
Lab6 – Skeletal & Muscular Systems

Week 4 (videos 16-20)

13. Nervous System
14. Digestive System & Nutrition
15. Reproductive System & Development
16. Respiratory System

Lab7 – Nervous System
Lab8 – Human reproduction