暨南大學 JINAN UNIVERSITY

Summer 2020

0704B101
Introductory Biology (With Lab)

Instructor: Ketian Chen
Time: Monday through Friday (June 15, 2020 - July 17, 2020)
Office Hours: 2 hours (according to the teaching schedule)
Contact Hours: 60 (50 minutes each)
Credits: 4
Location: Huiquan Building
Office: Huiquan Building 518

Course Description

Biological Science is all around us, and affects every aspect of our lives and every facet of life on Planet Earth. The goal of this course is to furnish students with the basic foundation, information, and analytical tools necessary to grasp the fundamental concepts central to the study of biology.
This is a vast and highly diverse subject, and thus will require an overview approach in a short course such as this one. We will cover the most important areas in some detail, both in the classroom and in the laboratory, while striving to achieve a balanced view of the big picture ideas.

Required Textbook(s)

Biology Today and Tomorrow, With Physiology, 3rd Edition or 4th, by Starr, Evers, and Starr (published in 2010 by Cengage). ISBN-10:0495561576
ISBN-13:9780495561576

Prerequisites

No prerequisites

Course Hours

The course has 20 lecture sessions and 5 lab sessions in total. Each session is 120 minutes in length. Lecture session meets from Monday to Thursday Lab session meets on each Friday.

Course Schedule

Please note that the schedule is meant to give an overview of the major concepts this course. Changes may occur in this calendar as needed to aid in the student`s development.

Week 1

Monday	Introduction to Biology
Tuesday	Molecules of Life
	Cell Structure
Wednesday	Energy and Metabolism
Thursday	Capturing and Releasing Energy
Friday	Lab 1: Scientific investigation

Week 2

Monday	DNA Structure and Function
Tuesday	Gene Expression and Control
	How Cells Reproduce
Wednesday	Patterns of Inheritance
Thursday	Biotechnology
Friday	Lab 2: Human inheritance lab

Week 3

Monday	Evidence of Evolution
Tuesday	Processes of Evolution
Wednesday	Early Life Forms and the Viruses
Thursday	Plants and Fungi
	Animal Evolution
Friday	Lab 3: Evidence of evolution Lab

Week 4

Monday	Population Ecology
Tuesday	Communities and Ecosystems
	The Biosphere and Human Effects
Wednesday	Animal Tissues and Organs
	How Animals Move
Thursday	Circulation and Respiration
	Immunity
Friday	Lab 4: Ecosystems and biodiversity lab

Week 5

Monday	Digestion and Excretion
Tuesday	Neural Control and the Senses
Wednesday	Reproduction and Development
	Plant Form and Function

Thursday	Plant Reproduction and Development
Friday	Lab 5: Nutrition and digestion lab

Laboratory schedules:

Lab 1: The Scientific Method and Metric System: In this laboratory students will focus on principles relating to the scientific method and the presentation of experimental data after which you will perform an experiment applying these principles. In the second part of this laboratory you will make a variety of measurements in metric units, and practice converting units within the metric system.

Lab 2: Human Inheritance Lab will determine personal phenotypes and genotypes for some observable traits and determine the frequencies (%) of dominant and recessive traits in a sample population.

Lab 3: Evidence of Evolution Lab: In this lab students will learn about homologous, analogous and vestigial structures and their significance in evolution theory. The student is expected to identify evidence of change in species using fossils pictures, DNA sequences, anatomical similarities, physiological similarities, and embryology.

Lab 4: Ecosystems and Biodiversity lab: Use the online simulation Ecology Lab to explore the relationship between food web complexity and biodiversity in an ecosystem.

Lab 5: Nutrition and digestion lab: In this lab students will be able to list the essential nutrients found in food; describe the basic chemical composition of carbohydrates, proteins, fats, and vitamins; identify nutrient content in foods and test for nutrients in unknown samples; learn the parts of the digestive system; explain functions of major nutrients in the body.

Course Requirements

Students are expected to do all the readings for the week in their entirety before class. In addition to reading the assigned material, you are required to think about the material and analyze it in comparison to other subjects under consideration. This will greatly enhance the value and quality of our classroom sessions. Use of cell phones, iPhones, any and all forms of Social Network activities, and any other electronic communication, games, or internet devices in class hinders your learning, is disrespectful and is strictly prohibited.

Grading Policy

Your final grade is based on the following components:

Type	Percentage
Laboratory work	25% of grade
Quizzes/Homework	20% of grade
Midterm Exam	25% of grade
Final Exam	30% of grade

Grading Scale

The instructor will use the grading system as applied by JNU:

Definition	Letter Grade	Score
Excellent	A	90~100
Good	B	80~89
Satisfactory	C	70~79
Poor	D	60~69
Failed	E	Below 60

Attendance

Attendance is mandatory in the class. It would be recorded each class and forms part of students` participation record. Students should inform the instructor at the earliest opportunity if they need to ask for a leave. All absences may have negative effect on students` final grades. Any students with more than three unexcused absences will automatically fail the course.

Academic Integrity

As members of the Jinan University academic community, students are expected to be honest in all of their academic coursework and activities. Academic dishonesty, includes (but is not limited to) cheating on assignments or examinations; plagiarizing, i.e., misrepresenting as one's own work any work done by another; submitting the same paper, or a substantially similar paper, to meet the requirements of more than one course without the approval and consent of the instructors concerned; or sabotaging other students` work within these general definitions. Instructors, however, determine what constitutes academic misconduct in the courses they teach. Students found guilty of academic misconduct in any portion of the academic work face penalties that range from the lowering of their course grade to awarding a grade of E for the entire course.