

Basic Course Information

Semester:	Fall2021	Instructor Name:	Jim Pendley
Course Title & #:	Biology 100	Email:	Pendley@imperial.edu
CRN #:	10927	Webpage (optional):	
Classroom:	OnLine	Office #:	
Class Dates:	8/16-12/11	Office Hours:	MW 10-11:00 AM
Class Days:	Asynch	Office Phone #:	-
Class Times:	Asynch	Emergency Contact:	760-355-6201
Units:	4	Class Format:	Asynch on-line Canvas

Course Description

A comprehensive one semester general biology course for non-majors. Includes life from the molecular to the organismic level of both plants and animals and their interactions within the environment. Special emphasis is put on human biology within appropriate areas of study. Appropriate for general education as well as nursing, pre-professional, and higher level biology courses. Includes laboratory component. (CSU) (UC credit limited. See a counselor

Course Prerequisite(s) and/or Corequisite(s)

Appropriate placement as defined by AB705; or MATH 098 or MATH 091 with a grade of "C" or better.

Student Learning Outcomes

Upon course completion, the successful student will have acquired new skills, knowledge, and or attitudes as demonstrated by being able to: 1. Demonstrate an understanding of the steps of the scientific method. (ILO2)

Course Objectives

Upon satisfactory completion of the course, students will be able to: 1. identify the basic characteristics of all living things. 2. name basic chemical aspects that pertain to life and the concept of homeostasis. 3. describe the subcellular components of the cell including their structure and function. 4. explain the light and dark reactions of

photosynthesis.5.explain cellular respiration and its relations to the entire organism.6.demonstrate knowledge of the structure and function of DNA and RNA.7.explain protein synthesis and site the central dogma of cell biology.8.compare and contrast the fundamentals of asexual and sexual reproduction.9.define ecology and the overall impact of ecology to conditions in the environment.
2 10.solve problems in general genetics and in human genetics and relate advances in genetics to social responsibility of geneticists.11.identify and relate the functions of the major systems of the human body; the interrelationship among body systems and nature of disease.12.classify organisms in the kingdoms of plants and animals, discuss their evolutions and their relations

Textbooks & Other Resources or Links

Concepts of Biology
OpenStax (No charge for download)

Course Requirements and Instructional Methods

Students will be able to describe various cellular processes such as photosynthesis, aerobic cellular respiration, enzymatic reactions, mitosis, and meiosis. Students will acquire a general knowledge of genetics and how genetic information is passed to offspring. Students will learn about the origin of life on Earth and how organisms underwent adaptation and evolution to give rise to life as we know it today. Students will learn the functions of the major systems of the human body, and some ways that these systems work cooperatively to maintain critical life functions. Simulated laboratory experiments will be conducted using Labster.

Course Grading Based on Course Objectives

There will be 4-5 section tests @ 48 points each.

There will be approx.. 10 quizzes @ 10-20 points each

There will be Labster lab experiment @ 10-20 points each and various written assignments @ various values

There will be 1 final @ 98 points (no makeup! Except under documented approval)

Final total scores will result in a percentage scale (100-90%) =A., (89-80%) =B, (79-70%)=C , (69-60%)=D, below 60%=F

Course Policies

This Asynchronous course requires each student to check into the class on Canvas at least once a week during the semester to continue. **Cheating damages you, your classmates, and**

your reputation. It is not worth it, do not help other students do so either. A monitoring system within Canvas may be used with out further notice to monitor for such behavior.

Other Course Information

.As this is an online course, please also review the Netiquette guidelines for online interactions in the Course Logistics folder. Academic honesty in the advancement of knowledge requires that all students and instructors respect the integrity of one another's work and recognize the important of acknowledging and safeguarding intellectual property

IVC Student Resources

IVC wants you to be successful in all aspects of your education. For help, resources, services, and an explanation of policies, visit <http://www.imperial.edu/studentresources> or click the heart icon in Canvas.

Anticipated Class Schedule/Calendar

Each Week will contain usually 1 chapter, with some shorter chapters combined or larger ones split. If specific subjects or time periods may conflict with your schedule such that compromises might occur, email me at the above email address and I will get back to you.

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2/16 WEEK 1. Intro to Biol 100 ~ Chap 1 in 'Concepts of Biology'. Chp.1 concepts voice over powerpoints lecture

2/22 Week 2. Chp 2 Concepts of Biology Prerequisites: WEEK 1. Intro to Biol 100 ~ Chap 1 in 'Concepts of Biology' Chap2 concepts voice over powerpoints lecture -Chemistry -molecules and bonding -biological molecules Labster lab on Laboratory Safety

/1 Week 3 Chp.3 Cell structure , concepts voice over powerpoints lecture -cell membrane/wall -Organelles and function - nucleus Labster Lab on MICROSCOPE

3/8 Week 4. Chp 4. Metabolism Chap 4 A, B, C ~ lecture over powerpoints concepts chap 4-cellular respiration:glycolysis, oxidative phosphoylation -fermentation Labster Lab on CELL STRUCTURE, CELL membrane /Transport4

3/15 Week 5 Photosynthesis LABSTER LAB on CELLULAR RESPIRATION LABSTER LAB on ELECTRON TRANSPORT SYSTEM Chp 5 lecture over powerpoints. -light and dark reactions -Calvin Cycle

3/22 Week 6 Genetics Chp 6 Chap 6 lecture over powerpoints concepts chap 6-genome-Cell cycle, cancer-Human Genetic Diseases -Human genetics /DNA -Cell Division LABSTER LAB on CELL DIVISION

3/29 Week 7 Cellular basis of Inheritance concepts chap 7lecture over powerpoints Comparison Meiosis and mitosis Meiosis- reproduction



4/12 Week 8 Patterns of inheritance Concepts chp 8 part A powerpoints and voice over Concepts chp 8 part B powerpoints and voiceover-Inheritance - punnet square -Mendelian Genetics -Meiosis, combination, crossing over. nondisjunction of chromosomes LABSTER LAB on Mendelian Inheritance

4/19 Week 9 Biotechnology chp. 9 and biotech (sections) Chp.10.1 and 10.2 for testing, but if time read 10.3 for knowledge.. Chp 9 part 1 lecture over powerpoints Chp.9Molecular biology and biotech concepts Biotech From DNA to Biotechnology-Cloning Chp 10 Voice over powerpoints. -Biotech and medicines

4/26 Week 10 Chap 11 Evolution and Chap 12 Diversity of Life (sections) Chp11 voice over powerpoints Chp 12 Lecture over powerpoints concepts chp 12.-evolution Darwin's finches Extinction of organisms-evolution and natural selection=Evolution and Diversity of life LABSTER LAB on EVOLUTION

5/3 Week 11 Chap. 16 Human Systems 16a powerpoints part A lecture over powerpoints Part B5 digestive system, dissection of sheep heart, -special organs-Human endocrine system LABSTER LAB FOOD MACROMOLECULES

5/10 Week 12 Chap 17 Immunology Chp 17 Lecture over powerpoints immunology-1 Immunology-2

5/17 Week 13 Chp 18 Reproduction chap 18 reproduction voice over powerpoints reproduction of organisms -Human female reproduction-Human Male Reproduction

5/24 Week 14 Chp. 19 Populations of organisms ecology/population powerpoints/voice -Communities-Human populations &Population Pyramid-population ecology

11/21 Week 15 FALL BREAK -Thanksgiving week

12/5 Week 16 Finish Research papers , COVID paper,and lab reports and turn in for credit

END of FALL SEMESTER

*****Subject to change without prior notice*****