IMPERIAL VALLEY COLLEGE

Basic Course Information

Semester:	**Fall 2023**	Instructor Name:	**Jia Sun**
Course Title & #:	**Principles of Biological Science – Biol 100**	Email:	**jia.sun@imperial.edu**
CRN #:	**10013**	Webpage (optional):	**N/A**
Classroom:	**2711**	Office #:	**2778**
Class Dates:	**8/14/23– 12/9/23**	Office Hours:	**MTRF: 11AM-12PM via Pronto W: 10:50AM-11:20AM in office**
Class Days:	**Wednesday**	Office Phone #:	**(760) 355-6521**
Class Times:	**11:20AM-2:30PM**	Emergency Contact:	**jia.sun@imperial.edu**
Units:	**4**	Class Format:	**Hybrid**

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. (UC credit limited. See a counselor.) (CSU/UC)

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

Appropriate placement as defined by AB705; or MATH 091 or MATH 098 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.
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 relationships.

Textbooks & Other Resources or Links

FREE LECTURE TEXTBOOK: Please note that you do not need to purchase the textbook or digital platform access for Achieve for Biology with Shuster Biology for a Changing World. Free access to the text and Achieve platform will be provided to you as part of an optional research study. Study participation will not be required.

Lab Manual: Biology 100 Lab Manual (9781307871074)

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.

Homework Assignment:
Digital homework assignment will accompany course notes each week to reinforce concepts introduced in class, access to this platform is already included with the textbook package. A total of twelve (12) assignments will be assigned over the course of the semester, the lowest four (4) assignments will be dropped.

Quizzes:
Digital quizzes will accompany course notes each week to reinforce concepts introduced in class, access to this platform is already included with the textbook package. A total of twelve (12) quizzes will be assigned over the course of the semester, the lowest four (4) quizzes will be dropped.

Discussions:
Discussions are an important component of many online classes. They replicate in-class (face-to-face) discussions, so they can be fertile ground for exploratory learning. They can also be fertile ground for self-assessment. When students are directed to consciously compare their ideas or their participation with other participants in the class, they may be able to adjust their participation (both quantity and quality) to meet the bar set by other students. A total of six (6) discussions will take place online over the course of the semester.

Exams:
The course includes four (4) equally weighted lecture exams.

Labs:
In-person and Labster simulated laboratory experiments will be conducted over the semester. A total of thirteen (13) labs will be assigned over the course of the semester. The lowest two (2) labs will be dropped.

Lab Exams:
The course includes three (3) equally weighted lecture exams.

Out of Class Assignments: The Department of Education policy states that one (1) credit hour is the amount of student work that reasonably approximates not less than one hour of class time and two (2) hours of out-of-class time per week over the span of a semester. WASC has adopted a similar requirement.

THE LAST DAY TO DROP THE COURSE WITH A 'W' IS 11/4

Course Grading Based on Course Objectives

Lecture Exams	4 x 50pts	200pts	
Labs	13 x 30pts	330pts	dropped: 2
Homework Assignments	12 x 10pts	80pts	dropped: 4
Discussions	6 x 20pts	120pts	
Lab Exams	3 x 50pts	150pts	
Lecture Quizzes	12 x 15pts	120pts	dropped: 4
		1000**pts**	

The Following grade cutoffs are guaranteed:
A: > 90%; B: > 80%; C: > 70%; D: > 60%

Course Policies

In an online course, student participation is equal to attendance. Your active participation throughout the course is required both for your success in the class as well as the primary proof of your attendance in the course. In compliance with the campus attendance/participation policy posted below, ***any student that does not complete the required first week's activities can be dropped from the course***. After the first week, any students that fail to submit discussion posts and complete assignments for two consecutive weeks may be dropped from the course if I am not notified ahead of time.

Absences attributed to the representation of the college at officially approved events (conferences, contests, and field trips) will be counted as 'excused' absences.

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.

•Plagiarism is taking and presenting as one's own the writings or ideas of others, without citing the source. You should understand the concept of plagiarism and keep it in mind when taking exams and preparing written materials. If you do not understand how to "cite a source" correctly, you must ask for help.

•Cheating is defined as fraud, deceit, or dishonesty in an academic assignment, or using or attempting to use materials, or assisting others in using materials that are prohibited or inappropriate in the context of the academic assignment in question.

Anyone caught cheating or plagiarizing will receive a zero (0) on the exam or assignment, and the instructor may report the incident to the Campus Disciplinary Officer, who may place related documentation in a file. Repeated acts of cheating may result in an F in the course and/or disciplinary action. Acts of cheating include, but are not limited to, the following: (a) plagiarism; (b) copying or attempting to copy from others during an examination or on an assignment; (c) communicating test information with another person during an examination; (d) allowing others to do an assignment or portion of an assignment; (e) using a commercial term paper service.

Artificial Intelligence (A.I.) IVC values critical thinking and communication skills and considers academic integrity essential to learning. Using AI tools as a replacement for your own thinking, writing, or quantitative reasoning goes against both our mission and academic honesty policy and will be considered academic dishonesty, or plagiarism unless you have been instructed to do so by your instructor. In case of any uncertainty regarding the ethical use of AI tools, students are encouraged to reach out to their instructors for clarification.

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.

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Anticipated Class Schedule/Calendar

WK	TOPIC
1	The Scientific Method (1)/Lab Introduction and Lab Safety (Labster)
2	Chemistry of Life (2)/Chemical Composition of Cells (3)
3	Cellular Physiology (3)/Microscopy (Labster)
4	Cellular Energetics (4-6)/Cell Structure and Function (4)
5	Cellular Energetics (4-6) Exam 1/Enzymes (5)
6	DNA structure and Reproduction (7)/Lab Exam 1
7	Cell Division (8/9)/Cellular Respiration (7.2)
8	Genetics (10/11) Exam 2/Photosynthesis (6.2)
9	Animal Body/Digestive System (26/27)/Muscle Tissue (Labster)
10	Cardiovascular/Respiratory System (28/29)/Intestinal Glucose Transport (Labster)
11	Immune System (32)/Lab Exam 2
12	Nervous System (30) Exam 3/Action Potential (Labster)
13	Evolution (13)/Animal Genetics (Labster)
14	Natural Selection and Speciation (14)/Evolution (Labster)
THANKSGIVING BREAK 11/20 – 11/25	
15	Ecology (20/21/22)/Biomes (Labster)
16	Exam 4/Lab Exam 3

Subject to change without prior notice