

Basic Course Information

Semester:	Spring 2023	Instructor Name:	Fatima Villalobos
Course Title & #:	Principles of Biological Sciences – BIOL 100	Email:	fatima.villalobos@imperial.edu
CRN #:	20025	Webpage (optional):	N/A
Classroom:	2717	Office #:	2777
Class Dates:	2/13/23 – 6/09/23	Office Hours:	M,W 9am-10am; T,Th 1:30pm-2:30pm; via email and Pronto, OR by appt.
Class Days:	T, Th	Office Phone #:	760.355.5743
Class Times:	9:40am-12:50pm	Emergency Contact:	fatima.villalobos@imperial.edu or 760.355.5743
Units:	4	Class Format:	Face-to-Face (On Ground)

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.
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

1. Required Textbook:

We will use the digitally free and open educational resource (OER) provided by OpenStax:

OpenStax College. (updated 2023). *Concepts of Biology*. OpenStax College, Retrieved from:

<https://openstax.org/details/books/concepts-biology>

Your book is available in web view and PDF for free. (see Canvas for details)

2. Required Lab Manual:

Imperial Valley College Lab Manual (Author: Mader). This is a custom Lab Manual for this class and is available for purchase at the [IVC bookstore](#).

ISBN: 9781307871074

3. Optional textbook (not required): Hoefnagels, Mariëlle. *Biology the Essentials* 4th edition ISBN: 978-1260709636

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.

Exams: The course will include five non-cumulative lecture exams covering concepts presented in lecture, and book readings. There will also be two Lab Exams based on the concepts and techniques learned in laboratory. They may present in the form of multiple choice, true/false, fill in the blank, and/or short answer. There will be an opportunity to drop the lowest exam score, with the exception of the last lecture and lab exam. **There are**



NO Make-Up exams except for extreme circumstances. If you have a valid, documented reason for missing an exam, it is your responsibility to tell me about it as soon as possible and provide valid documentation, otherwise you will not have the opportunity to make up the exam and will be given a zero for that exam.

Lab assignments: There will be approximately 10-12 assigned labs throughout the semester. At the end of each lab your group will be responsible for uploading the completed lab worksheet(s) worth 10-15 points each. Only one group submission is required, but all members will write their name on the lab sheet. Lab groups cannot leave the lab until all members of the group have finished the experiments. Lab groups will have to show me the data from the lab and may be asked to explain the data before the lab group is allowed to leave the lab. Lab groups must thoroughly clean up after themselves, or else groups will be assigned to do clean up at the end of the next lab!

Homework Assignments: There will be approximately ten homework assignments based on the lectures and chapter readings. Assignments will be posted on CANVAS under the Modules tab. Assignments will be posted on a Monday and will due by the end of the week, 11:59pm Sunday for the assigned weeks.

Project/Presentation: Students will work in their Lab groups to present a biology topic of choice (cancer, animal adaptations, body disorders, functions of brain, cloning, genetics, etc.). Details on CANVAS.

Late penalty may apply for some online assignments and uploads such as homework/labs.

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.

What if I need to borrow technology or access to WIFI?

1. To request a loaner laptop, MYFI device, or other electronic device, please submit your request here: <https://imperial.edu/students/student-equity-and-achievement/>
2. If you'd like access the WIFI at the IVC campus, you can park in parking lots "I & J". Students must log into the IVC student WIFI by using their IVC email and password. The parking lots will be open Monday through Friday from 8:00 a.m. to 7:00 p.m.

Guidelines for using parking WIFI:

- Park in every other space (empty space BETWEEN vehicles)
- Must have facemask available
- For best reception park near buildings
- Only park at marked student spaces
- Only owners of a valid disabled placard may use disabled parking spaces
- Only members of the same household in each vehicle



- Occupants **MUST** remain in vehicles
- Restrooms and other on-campus services not available
- College campus safety will monitor the parking lot
- Student code of conduct and all other parking guidelines are in effect
- Please do not leave any trash behind
- No parking permit required**

If you have any questions about using parking WIFI, please call Student Affairs at 760- 355-6455.

[DATES TO REMEMBER: \(please check Imperial Valley College Important Dates & Deadlines\)](#)

- **February 17, 2023:** Holiday- Lincoln’s Birthday. No classes.
- **February 20, 2023:** Holiday- Washington’s Birthday. No classes.
- **February 26, 2023:** Last day to drop WITHOUT “W”
- **April 10-16, 2023:** Spring Recess. No classes.
- **May 13, 2023 (Saturday):** Last day to drop WITH “W”
- **May 29, 2023:** Holiday – Memorial Day. No classes.

Course Grading Based on Course Objectives

Your course grade will be based on exams, lab assignments, discussions, reading assignments and research project/oral presentation. Anticipated points awarded toward the final grade include:

▪ 4 (5-1) Non-Cumulative Exams	(5-1) x 50 pts	=	200 pts
▪ Lab Exams	2 x 30 pts	=	60 pts
▪ Labs	10 x 15 pts	=	150 pts
▪ Homework Assignments	10 x 10 pts	=	100 pts
▪ Project	1 x 50 pts	=	50 pts
TOTAL			560 pts

Total possible points = 560 points. Calculating Grade Point; To calculate your grade, add all the points earned during the course, divide that value by total possible points, and multiply by 100. Example; if the total points that you earned is 480 points out of 560 possible points, your average grade for the course would be; $(480/560) \times 100 = 85\%$ which equals the letter grade “B”. Extra Credit **may** be awarded in the form of critical thinking questions or bonus questions **on exam**.

Grading scale: A \geq 90 % B \geq 80% C \geq 70% D \geq 60%

No exceptions

Course Policies

Attendance

- A student who fails to attend the first meeting of a class or does not complete the first mandatory activity of an online class will be dropped by the instructor as of the first official meeting of that class. Should

readmission be desired, the student's status will be the same as that of any other student who desires to add a class. It is the student's responsibility to drop or officially withdraw from the class. See [General Catalog](#) for details.

- Regular attendance in all classes is expected of all students. A student whose continuous, unexcused absences exceed the number of hours the class is scheduled to meet per week may be dropped. For online courses, students who fail to complete required activities for two consecutive weeks may be considered to have excessive absences and may be dropped.
- Absences attributed to the representation of the college at officially approved events (conferences, contests, and field trips) will be counted as 'excused' absences.

Academic Honesty

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.

There are many different forms of academic dishonesty. The following kinds of honesty violations and their definitions are not meant to be exhaustive. Rather, they are intended to serve as examples of unacceptable academic conduct.

- 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. Please refer to the [General Catalog](#) for more information on academic dishonesty or other misconduct. 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.

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

		LECTURE	LABORATORY	
Week	Date	Lecture Topic (Related Chapter)	Date	Laboratory Topic
1	2/14	Course Orientation, Ch. 1: The Sci. Study of Life	2/16	Introduction The Scientific Study of Life/Metrics (2.1)
2	2/21	Ch. 2: Chemistry of Life	2/23	Chemical Composition of Cells (3.1- 3.4)
3	2/28	Ch. 3: Cell Structure & Function	3/2	Microscopy (2.2-2.5)
4	3/7	Ch. 4: The Energy of Life Lecture Exam I (Ch 1-3)	3/9	Cell Structure & Function (4.1-4.3)
5	3/14	Ch. 5: Photosynthesis	3/16	Enzymes (5)
6	3/21	Ch. 6: Respiration & Fermentation	3/23	LAB EXAM I
7	3/28	Ch 23 & 27: Animal Tissues, Organs, Circulation & Respiration	3/30	Cellular Respiration (7.2)
8	4/4	Lecture Exam II (Ch 4-6)	4/6	Make Presentation Groups Ch 28: Digestive & Urinary System,
No Classes/Spring Break				
9	4/18	Ch 24: Nervous System	4/20	Fetal Pig Dissection I (27, 29)
10	4/25	Ch. 7: DNA Structure and Gene Function	4/27	Lecture Exam III(Ch 23, 24, 27, 28) Presentation Topic Due Sunday 4/30
11	5/2	Ch. 8&9: Mitosis & Meiosis	5/4	Nervous System & Senses (31),
12	5/9	Ch. 10 & 11: Patterns of Inheritance & DNA Technology	5/11	Presentation Prep Cellular Division (8) Human Genetics (11.1),
13	5/16	Ch. 12-13 Evolution	5/18	Human Genetics: ABO Blood Typing
14	5/23	Ch 14 Evolution cont'd Lecture Exam IV, Ch(7-11)	5/25	Ch 14 Evolution cont'd Work on Project/Presentation -Upload Due Sunday 5/28
15	5/30	Ch 18-19 Population Ecology	6/1	Watch Video Presentations
16	6/6	Lecture EXAM V (Ch 12-14, 18, 19)	6/8	Lab Exam II

Tentative, subject to change without prior notice