



IMPERIAL VALLEY COLLEGE

Basic Course Information

Semester:	Fall 2024	Instructor Name:	John B. Horne
Course Title & #:	Principles of Biological Science – Biol 204	Email:	John.horne@imperial.edu
CRN #:	10470	Webpage (optional):	
Classroom:	2713	Office #:	2779
Class Dates:	Aug 12 – Dec 7, 2024	Office Hours:	Thursday 9:00-1:00 pm
Class Days:	Tuesdays and Thursdays	Office Phone #:	760-355-6148
Class Times:	2:40 – 5:5	Emergency Contact:	Department Secretary: 760 355 6155
Units:	4	Class Format/Modality:	Face-to-face

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)

Successful completion of Intermediate Algebra or appropriate placement as defined by AB705.

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.
2. demonstrate an understanding of the basis of evolution.

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

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Textbooks & Other Resources or Links

Biology 100 lab manual: ISBN-10: 1-307-87107-0

Concepts of Biology Free online ebook: <https://openstax.org/details/books/concepts-biology>

Course Requirements and Instructional Methods

Biology is a hands-on science. Students will be required to participate in all lectures and labs to complete the course.

All tests will be based on the lecture and reading material.

Course Grading Based on Course Objectives

All exams, including the final are equally weighted and worth fifteen percentage points of the final grade.

Lab assignments in total are worth 40% of the final grade.

Grade ranges

A (90%+)

B (80-89.9%)

C (70-79.9%)

D (60-69.9%)

F (0-59.9%)

Academic Honesty (Artificial Intelligence -AI)

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.

Course Policies

Students are expected to attend and be on time for all lectures and labs. Absences and tardies will disadvantage students and may incur other penalties as deemed appropriate by the instructor.

There is a waitlist for this class, so students who do not show up on the first day will be dropped from the class to make room for waitlisted students.

The timely and on-time completion of assignments is required. Late assignments will be penalized. Exceptions are generally not allowed but can be approved under special circumstances.

Other Course Information



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

Week	Lecture	Lab
Aug. 12 - 16	Ch1. Intro to Biology	Metric Measurements (Lab 2.1)
Aug 19 - 23	Ch. 2 Chemistry of life Ch. 3 Cells and Membranes	Chemical Composition of Cells (Lab 3.1,2)
Aug 26 - 30	Ch. 4 Energy & Enzymes Ch. 5 Photosynthesis	Microscopy (Lab 2.4-5)
Sept 2 - 6	Ch. 6 DNA & the Genome Ch. 9 Molecular Biology	Cell structure and function (Lab 4.3-4)
Sept 9 - 13	In-class Exam (Ch. 1-5)	No Lab
Sept 16 - 20	Ch. 7 Meiosis Ch 8. Genetics	Enzymes (Lab 5.1-3)
Sept 23 - 27	Ch. 15 Animals & Animal tissues Ch. 16.3 Circulation	Cellular division (Lab 8.1)
Sept 30 – Oct 4	Ch. 16.3 Respiration	DNA isolation (Lab 11.3-4)
Oct 7 – 11	Exam 2 Ch. 6-9	No Lab
Oct 14 – 18	Ch. 16.2 Digestion Ch. 16.1 Urination	Dissection (Lab 27)
Oct 21 – 25	Ch. 17 The immune system & disease	Dissection (Lab 27)
Oct 28 – Nov 1	Ch. 18 Reproduction	Dissection (Lab 27)
Nov 4 – 8	Ch. 19 Population Biology	Dissection (Lab 27)
Nov 11 – 15	Ch. 21 Conservation & Biodiversity	No lab
Nov 18 – 22	Thanksgiving break, no school.	Thanksgiving break, no school.
Nov 25 - 29	Class Review	Review for lab exams
Dec 2 - 6	Exam 4 Ch. 15-16, 17-19, 21	Lab exam (all labs)