

Basic Course Information

Semester:	Summer 2020	Instructor Name:	Dr. Pat Pauley
Course Title & #:	Principles of Biological Science – BIOL 100	Email:	patrick.pauley@imperial.edu
CRN #:	30175	Webpage (optional):	
Classroom:	2717	Office #:	2773
Class Dates:	Feb 18, 2020 - Jun 12, 2020	Office Hours:	ONLINE
Class Days:	ONLINE	Office Phone #:	760-355-6363
Class Times:	ONLINE	Emergency Contact:	Ofelia Duarte 760- 355- 6155
Units:	4		

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

MATH 091 or MATH 090 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

Imperial Valley College *Biology with Lab Manual* ISBN: 9781308487663

Biology: The Essentials - Marielle Hoefnagels (3rd Edition) ISBN:9781260140651

Course Requirements and Instructional Methods

Students will learn to use a microscope to identify various organisms and their parts. They 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 includes four (4) equally-weighted lecture exams and one (1) comprehensive lab exam. While the lecture exams may not be fully cumulative; no concept in biology is truly independent, so each might require knowledge of previously covered material.

Labs:

While concepts from all labs assigned in class will be present on the final lab exam, two (2) labs will also be graded.

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 7/21

Course Grading Based on Course Objectives

Lecture Exams	7 x 100pts	700pts
Lab Exam	1 x 100pts	100pts
Labs (2x)	6 x 25pts	150pts

950pts

The Following grade cutoffs are guaranteed:

A: > 90%; B: > 80%; C: > 70%; D: > 60%

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.

Classroom Etiquette

- **Electronic Devices:** Cell phones and electronic devices must be turned off and put away during class, unless otherwise directed by the instructor.
- **Food and Drink** are prohibited in all classrooms. Water bottles with lids/caps are the only exception. Additional restrictions will apply in labs. Please comply as directed by the instructor.
- **Disruptive Students:** Students who disrupt or interfere with a class may be sent out of the room and told to meet with the Campus Disciplinary Officer before returning to continue with coursework. Disciplinary procedures will be followed as outlined in the [General Catalog](#).
- **Children in the classroom:** Due to college rules and state laws, no one who is not enrolled in the class may attend, including children.

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.

Additional Student Services

Imperial Valley College offers various services in support of student success. The following are some of the services available for students. Please speak to your instructor about additional services which may be available.

- **CANVAS LMS.** Canvas is Imperial Valley College's main Learning Management System. To log onto Canvas, use this link: [Canvas Student Login](#). The [Canvas Student Guides Site](#) provides a variety of support available to students 24 hours per day. Additionally, a 24/7 Canvas Support Hotline is available for students to use: 877-893-9853.
- **Learning Services.** There are several learning labs on campus to assist students through the use of computers and tutors. Please consult your [Campus Map](#) for the [Math Lab](#); [Reading, Writing & Language Labs](#); and the [Study Skills Center](#).
- **Library Services.** There is more to our library than just books. You have access to tutors in the [Study Skills Center](#), study rooms for small groups, and online access to a wealth of resources.

Disabled Student Programs and Services (DSPS)

Any student with a documented disability who may need educational accommodations should notify the instructor or the [Disabled Student Programs and Services \(DSP&S\)](#) office as soon as possible. The DSP&S office is located in Building 2100, telephone 760-355-6313. Please contact them if you feel you need to be evaluated for educational accommodations.

Student Counseling and Health Services

Students have counseling and health services available, provided by the pre-paid Student Health Fee.

- **Student Health Center.** A Student Health Nurse is available on campus. In addition, Pioneers Memorial Healthcare District provide basic health services for students, such as first aid and care for minor illnesses. Contact the IVC [Student Health Center](#) at 760-355-6128 in Room 1536 for more information.
- **Mental Health Counseling Services.** Short-term individual, couples, family and group counseling services are available for currently enrolled students. Services are provided in a confidential, supportive, and culturally sensitive environment. Please contact the IVC Mental Health Counseling Services at 760-355-6310 or in the building 1536 for appointments or more information.

Veteran's Center

The mission of the [IVC Military and Veteran Success Center](#) is to provide a holistic approach to serving military/veteran students on three key areas: 1) Academics, 2) Health and Wellness, and 3) Camaraderie; to serve as a central hub that connects military/veteran students, as well as their families, to campus and community resources. Their goal is to ensure a seamless transition from military to civilian life. The Center is located in Building 600 (Office 624), telephone 760-355-6141.

Extended Opportunity Program and Services (EOPS)

The Extended Opportunity Program and Services (EOPS) offers services such as priority registration, personal/academic counseling, tutoring, book vouchers, and community referrals to qualifying low-

income students. EOPS is composed of a group of professionals ready to assist you with the resolution of both academic and personal issues. Our staff is set up to understand the problems of our culturally diverse population and strives to meet student needs that are as diverse as our student population. Also under the umbrella of EOPS our CARE (Cooperative Agency Resources for Education) Program for single parents is specifically designed to provide support services and assist with the resolution of issues that are particular to this population. Students that are single parents receiving TANF/Cash Aid assistance may qualify for our CARE program, for additional information on CARE please contact Lourdes Mercado, 760-355- 6448, lourdes.mercado@imperial.edu.

EOPS provides additional support and services that may identify with one of the following experiences:

- Current and former foster youth students that were in the foster care system at any point in their lives
- Students experiencing homelessness
- Formerly incarcerated students

To apply for EOPS and for additional information on EOPS services, please contact Alexis Ayala, 760-355-5713, alexis.ayala@imperial.edu.

Student Equity Program

The Student Equity Program strives to improve Imperial Valley College's success outcomes, particularly for students who have been historically underrepresented and underserved. The college identifies strategies to monitor and address equity issues, making efforts to mitigate any disproportionate impact on student success and achievement. Our institutional data provides insight surrounding student populations who historically, are not fully represented. Student Equity addresses disparities and/or disproportionate impact in student success across disaggregated student equity groups including gender, ethnicity, disability status, financial need, Veterans, foster youth, homelessness, and formerly incarcerated students. The Student Equity Program provides direct supportive services to empower students experiencing insecurities related to food, housing, transportation, textbooks, and shower access. We recognize that students who struggle meeting their basic needs are also at an academic and economic disadvantage, creating barriers to academic success and wellness. We strive to remove barriers that affect IVC students' access to education, degree and certificate completion, successful completion of developmental math and English courses, and the ability to transfer to a university. Contact: 760.355.5736 or 760.355.5733 Building 100.

The Student Equity Program also houses IVC's Homeless Liaison, who provides direct services, campus, and community referrals to students experiencing homelessness as defined by the McKinney-Vento Act. Contact: 760.355.5736 Building 100.

Student Rights and Responsibilities

Students have the right to experience a positive learning environment and to due process of law. For more information regarding student rights and responsibilities, please refer to the IVC [General Catalog](#).

Information Literacy

Imperial Valley College is dedicated to helping students skillfully discover, evaluate, and use information from all sources. The IVC [Library Department](#) provides numerous [Information Literacy Tutorials](#) to assist students in this endeavor.

Anticipated Class Schedule

Lecture topics tentative, subject to change without prior notice. Exams will not change dates.

Date	Lecture (M)	Lab (T)	Online Worksheets and Reviews due
June 17	Introduction to the class / Ch. 1.1,3 – Scientific Study of Life	Introduction to the lab / Ch. 1.1,3 – Scientific Study of Life	
June 18	Ch. 2 – The Chemistry of Life	Metric Measurement (Lab 2.1)	Study of Life
June 19	Ch. 2 – The Chemistry of Life / Ch. 3.1,2,4,5 – Cells	Chemical Composition of Cells (Lab 3.1, 2)	Chemistry
June 20	Ch. 3.1,2,4,5 – Cells / Ch. 3.3, 4.5 – Membranes	Microscopy (Lab 2.4-5) / Lab Worksheet Packet 1 Due	Cells
June 24	Ch. 8.1,4,5 – Cell Division / Ch. 9.1-6 – Sexual Reproduction and Meiosis	Cell Structure and Function (Lab 4.3-4)	Membranes Exam 1 Review
June 25	Ch. 9.1-6 – Sexual Reproduction and Meiosis / Ch. 4.1,3,4 – The Energy of Life	Cellular Division (Lab 8.1)	
June 26	Exam 1 – Ch. 1-4 (Membranes)	NO LAB	
June 27	Ch. 4.1,3,4 – The Energy of Life / Ch. 23.1,2 – Tissues	Enzymes (Lab 5.1-3)	Cell Division & Meiosis
July 1	Ch. 27.1,3-5 – Circulation / Ch. 27.6,7 – Respiration	Worm Dissection Lab Worksheet Packet 2 Due	Energy
July 2	Ch. 27.6,7 – Respiration / Ch. 28.7 – Digestion	Frog Dissection	Tissues
July 3	Ch. 28.7 – Digestion / Ch. 28.9,10 – Urination	Fetal Pig Dissection 1 (Lab 26.3, 27.5)	Circulation Exam 2 Review
July 8	Exam 2 – Ch. 4 (Energy), 8, 9, 23, 27	NO LAB	
July 9	Ch. 24.1,2,4-6 – Nervous System / Ch. 24.7-11 – Senses	Fetal Pig Dissection 2 (Lab 26.4-6, 27.5) Worksheet Packet 3 Due	Digestion & Urination
July 10	Ch. 24.7-11 – Senses / Ch. 2.5D, 7.1, 8.2 – DNA Structure and Replication	Fetal Pig Dissection 3 (Lab 26.4-6, 27.5)	
July 11	Ch. 2.5D, 7.1, 8.2 – DNA Structure and Replication / Ch. 7.2,3,4,6 – Gene Function	Senses (Lab 30.2-4)	
July 15	Ch. 7.2,3,4,6 – Gene Function	Ch. 10.1,2,3,7,8 – Patterns of Inheritance	DNA
July 16	Ch. 10.1,2,3,7,8 – Patterns of Inheritance	DNA Isolation (Lab 11.3, 4) / Lab Worksheet Packet 4 Due	Exam 3 Review
July 17	Exam 3 – Ch. 28, 24, 7, 8	NO LAB	
July 18	Ch. 8.6 – Cancer	Human Genetics (Lab 10.2)	Genetics
July 22	Ch. 12.1,2,3,5 – Forces of Evolutionary Change	Lab Worksheet Packet 5 Due	Cancer
July 23	Ch. 18.2,4,6 – Population Ecology	<u>Review for Lab Exam</u>	Populations Exam 4 Review
July 24	Exam 4 – Ch. 10, 8 (Cancer), 12, 18	NO LAB	
July 26	NO LECTURE	Lab Exam (all labs)	

Anticipated Class Schedule

Lecture topics tentative, subject to change without prior notice. Exams will not change dates.

Date	Lecture	Lab
Jan 06	Introduction to the class / Ch. 1.1,3 – Scientific Study of Life	Introduction to the lab / Ch. 1.1,3 – Scientific Study of Life
Jan 07	Ch. 2 – The Chemistry of Life	Metric Measurement (Lab 2.1)
Jan 08	Ch. 2 – The Chemistry of Life / Ch. 3.1,2,4,5 – Cells	Chemical Composition of Cells (Lab 3.1, 2)
Jan 09	Ch. 3.1,2,4,5 – Cells / Ch. 3.3, 4,5 – Membranes	Microscopy (Lab 2.4-5) / Lab Worksheet Packet 1 Due
Jan 10	Ch. 8.1,4,5 – Cell Division / Ch. 9.1-6 – Sexual Reproduction and Meiosis	Cell Structure and Function (Lab 4.3-4)
Jan 13	Ch. 9.1-6 – Sexual Reproduction and Meiosis / Ch. 4.1,3,4 – The Energy of Life	Cellular Division (Lab 8.1)
Jan 14	Exam 1 – Ch. 1-4 (Membranes)	NO LAB
Jan 15	Ch. 4.1,3,4 – The Energy of Life / Ch. 23.1,2 – Tissues	Enzymes (Lab 5.1-3)
Jan 16	Ch. 27.1,3-5 – Circulation / Ch. 27.6,7 – Respiration	Worm Dissection Lab Worksheet Packet 2 Due
Jan 17	Ch. 27.6,7 – Respiration / Ch. 28.7 – Digestion	Frog Dissection
Jan 21	Ch. 28.7 – Digestion / Ch. 28.9,10 – Urination	Fetal Pig Dissection 1 (Lab 26.3, 27.5)
Jan 22	Exam 2 – Ch. 4 (Energy), 8, 9, 23, 27	NO LAB
Jan 23	Ch. 24.1,2,4-6 – Nervous System / Ch. 24.7-11 – Senses	Fetal Pig Dissection 2 (Lab 26.4-6, 27.5)
Jan 24	Ch. 24.7-11 – Senses / Ch. 2.5D, 7.1, 8.2 – DNA Structure and Replication	Worksheet Packet 3 Due Fetal Pig Dissection 3 (Lab 26.4-6, 27.5)
Jan 27	Ch. 2.5D, 7.1, 8.2 – DNA Structure and Replication / Ch. 7.2,3,4,6 – Gene Function	Senses (Lab 30.2-4)
Jan 28	Ch. 7.2,3,4,6 – Gene Function	Ch. 10.1,2,3,7,8 – Patterns of Inheritance
Jan 29	Ch. 10.1,2,3,7,8 – Patterns of Inheritance	DNA Isolation (Lab 11.3, 4) / Lab Worksheet Packet 4 Due
Jan 30	Exam 3 – Ch. 28, 24, 7, 8	NO LAB
Jan 31	Ch. 8.6 – Cancer	Human Genetics (Lab 10.2)
Feb 3	Ch. 12.1,2,3,5 – Forces of Evolutionary Change	Lab Worksheet Packet 5 Due
Feb 4	Ch. 18.2,4,6 – Population Ecology	<u>Review for Lab Exam</u>
Feb 5	Exam 4 – Ch. 10, 8 (Cancer), 12, 18	NO LAB
Feb 6	NO LECTURE	Lab Exam (all labs)

The last day to drop the course with a 'W' is 01/29

This class requires a commitment to master the material. There is NO extra credit.