

Biology 100, Course syllabus,

Fall 2023 – CRN = 10016

Dr. Ahrar

Semester	Fall 2023	Instructor Name	Dr. Mohammad Ahrar
Course Title & #	Biology 100	Email	Mohammad.ahrar@imperial.edu
CRN #	10016	Webpage	N/A
Room	Online via Zoom	Office	N/A
Class Dates	Aug. 14, to Dec. 9, 2023	Office Hours	Via e-mail
Class Time and day	Lecture- 8 to 11:10 am Labs- 11:20 am to 2:30 pm	Fridays	Dept, # 760-355-6155
Units	4 Units		

Course Description:

This biology course is taught online, synchronously, which means all students will attend class sessions via Zoom. This course is comprehensive, general biology for non-majors. Covering the areas of life from the molecular to the organismal level of both plants and animals. Special emphasis is put on cell division, photosynthesis, and plant and human biology within appropriate areas of study. The evolution of species and the interaction of organisms within the environment is also included. This course is also appropriate for general education as well as nursing, pre-professional, and higher-level biological studies.

Student learning outcomes:

Upon course completion, with a grade of “C” or better, 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)
2. Communicate an understanding of the various patterns of inheritance of genetic traits. (ILO1 & ILO2)
3. Explain how the processes of natural selection influence evolution. (ILO1 & ILO2)
4. Perform lab activities properly, and correctly analyze lab data. (ILO1 & ILO2)
5. Students will also acquire a general knowledge of genetics and how the original species underwent adaptation and evolution to give rise to life as we know it today.

Course Objectives:

Upon satisfactory completion of the course, students with a grade of “C” or better 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 on conditions in the environment.
10. Solve problems in general genetics and in human genetics and relate advances in genetics to the social responsibility of geneticists.
11. Identify and relate the functions of the major systems of the human body; the interrelationship among body systems and the nature of disease.
12. Classify organisms in the kingdoms of plants and animals, and discuss their evolutions and their relationships.

Textbooks & Other Resources or Links

Lecture Textbook: Biology Concepts and Investigations (3rd edition) by Marielle Hoefnagels – SBN: 9781308487663. Publisher: McGraw-Hill.

Laboratory: Lab activities in this online class will not be done in the school lab. Instead, the experiments will be modified to accommodate online courses and be posted on Canvas.

Course Requirements and Instructional Methods

Prerequisite - MATH 091 or MATH 090 with a grade of "C" or better.

Lecture information- This Fall 2023 Biol-100 class will be online and taught synchronously, which means the students must attend the Zoom class sessions on a timely basis. In each class session, we use a PowerPoint slide presentation about the chapters in the textbook. Course materials covered in this online class will be the same as the regular on-campus classes, and students will gain as much information from this online class as any other biology class taught on campus. It is the responsibility of the students to manage their time and learn the class materials.

Lab assignments – The lab assignments basically supplement the lecture PPT materials and students will learn a lot of information from their lab reports. The lab exercises will mostly be based on the lab manual that we used at the campus laboratory, but the experiments will be modified for online classes. The instructions for each lab will be posted on Canvas weekly. For the experiments that require a wet lab, we may use short videos that demonstrate the experimental procedures. Students should work on lab assignments, answer all the questions, and post the complete work on Canvas on a weekly basis. Students will get 4 to 6 points for each completed lab assignment. The due dates for posting the lab reports are shown in the table on the last page.

Research project: Each student will be assigned a topic related to biology to research. The research projects will develop your scientific research capability and will expand your knowledge about Biology beyond the textbook. The information about research projects will be discussed later during the class sessions and will be posted on Canvas.

Written assignments: Students will be given questions about Biology to find answers and discuss their findings to the class during the Zoom class meetings.

Extra credit: There will be extra homework for extra credit. Extra credits can be in the form of answering questions during lecture presentations or can be in the form of finding answers to a particular topic related to Biology. The extra credit points will be applied toward the final grade.

Quizzes and exams: There will be 10 quizzes and 5 exams during the course. Questions in the quizzes and exams come from the materials from lectures power points, chapter summaries, Lab assignments, written assignments, and discussions during the Zoom class sessions. A variety of testing methods will be employed, including but not limited to true/false, multiple choice, and short essays.

Course Grading is Based on Course Objectives

Total of 10 quizzes, each 20 points	200 points
Total of 5 Exams, each 100 points	500 points
Total of 16 Lab assignments (5 points each)	80 points
Written assignments	100 points
Research project	40 points

Total Points 920 points

Grading scale: >90% = A, 80% - 89% = B, 70% - 79% = C, 60% - 69% = D, <60% = F

Grade point calculation = Total points earned divided by 920 multiply by 100. For example; if your total earned points is 850, your grade point will be calculated as $850 : 920 \times 100$ equals 90 % = “A” grade.

The grades for all class assignments and tests will be posted on Canvas weekly and will be available to you to monitor your progress during the course and will be updated weekly.

Course Policies

- **Attendance** is critical to student success and for IVC to use federal aid funds. Regular attendance in all Zoom class sessions is expected of all students. A student whose continuous, unexcused absence exceeds the number of hours the class is scheduled to meet per week may be dropped.
- Acceptable indications of attendance include - submission of assignments, quizzes, and exams, participation in online class discussions and responding to emails from the instructor. Logging onto Canvas alone is NOT adequate to demonstrate academic attendance by the student.
- Drop policy- In asynchronous online courses, such as this course, students who fail to complete required activities for two consecutive weeks can be considered to have excessive absences and may be dropped by the instructor. 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 if desired so. See [General Catalog](#) for details.
- Absences attributed to the officially approved events (conferences, contests, and field trips) will be counted as ‘excused’ absences.
- **Missing tests and late assignment policy;** any missed quiz, exam, or late assignment will not be allowed to retake. In case of emergencies or excused situations (with written documentation), a quiz or a test, or a

missed lab assignment may be done, but there will be 20% deductions from any retake test or a past-due assignment.

- **Academic honesty;**

Plagiarism - is to use and present the writings or ideas of others as one's own, without citing the source.

You should understand the concept of plagiarism and keep it in mind when preparing a research project or written assignment, to cite the references that you have used.

- *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 via emails or other ways, which are prohibited or inappropriate in the context of the academic assignment in question will result in a Zero point. Please refer to the General School Catalog ([General Catalog](#)) for details for more information on academic dishonesty or other misconduct.

Other Course information- Additional Help –

- Communication policy- Our main communication during the course will be the weekly Zoom meetings during which the students have the opportunity to ask questions and interact with classmates and the instructor. Other ways of communication with the students include announcements, Canvas messaging, and feedback on assignments. Canvas email system (via Inbox) is a preferred way to communicate with me. I do not have office hours, but I will be willing to talk to you after any of our Zoom class meetings. I will also return your emergency calls or messages as soon as I receive them.
- Feedback policy- The results of the tests will be posted within 24 hours after taking the tests so that you can follow your progress by checking the grade book. Questions about the course will be answered within 24 hours. Emergency contacts will be responded to as soon as I receive them, normally within an hour. You can access the feedback to your assignments as a response or a comment to your posted assignments within 24 hours.
- Technology policy- If you have a technical question, you can contact me or contact the help desk or use Canvas support. You may find this link <https://www.youtube.com/watch?v=PIObbQyNeOw> from one of my colleagues helpful to understand Canvas.
- Imperial Valley College is dedicated to helping students skillfully discover, evaluate, and use information from all sources. Students can access tutorials at <http://www.imperial.edu/courses-and-programs/divisions/arts-and-letters/library-department/info-lit-tutorials/>

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 if you live close to campus, or You can call 760-355-6313 if you feel you need to be evaluated for educational accommodation.

Student Information, Rights, and Responsibilities

Students have the right to experience a positive learning environment. For further information regarding student rights and responsibilities please refer to the IVC General Catalog available online at

http://www.imperial.edu/index.php?option=com_docman&task=doc_download&gid=4516&Itemid=762

Imperial Valley College is dedicated to helping students skillfully discover, evaluate, and use information from all sources.

Anticipated Class Schedule / Calendar during the **Fall 2023** semester (subject to change)

Imperial Valley College Course Syllabus – Course Title and number

Week	DATE	Lecture topics and exam schedule	Lab report topic and exam due dates
1	Fri. 8/18/2023	Ch. 1 Scientific study of life (page 2) Ch. 2 The Chemistry of Life	Lab report 1 (all lab reports are due by 3 pm. same day)
2	Fri. 8/25/2023	Ch. 3 Cells	Lab report 2 Quiz 1(Ch. 1, 2)
3	Fri. 9/1/2023	Ch. 4 The energy of life Ch. 5 Photosynthesis	Lab report 3 Quiz 2 (Ch. 3)
4	Fri. 9/8/2023	Ch. 6 How cells release energy	Lab report 4 Quiz 3(Ch. 4, 5)
5	Fri. 9/15/2023	Ch. 7- DNA Structure- Gene function. Ch. 8 DNA Replication and cell division	Lab report 5 Exam 1 (from Ch. 1 to 6)
6	Fri. 9/22/2023	Ch. 9 Sexual reproduction and Meiosis Ch. 10 Patterns of Inheritance	Lab report 6 Quiz 4 (Ch. 7, 8)
7	Fri. 9/29/2023	Ch. 11 DNA Technology	Lab report 7 Quiz 5 (Ch. 9, 10)
8	Fri. 10/6/2023	Ch. 12 Forces of Evolution Ch. 13 Evidence of Evolution	Lab report 8 Exam 2 (from Ch. 7, 8, 9, 10, 11)
9	Fri. 10/13/2023	Ch. 15 Microbial life	Lab report 9 Quiz 6 (Ch. 12, 13)
10	Fri. 10/20/2023	Ch. 17- Evolution-diversity of animals	Lab report 10 Quiz 7 (Ch. 15)
11	Fri. 10/27/2023	Ch. 19 Community- Ecosystem	Lab report 11 Exam 3 (Ch. 12, 13, 15, 17)
12	Fri. 11/2//2023	Ch. 20 Preserving Biodiversity	Lab report 12 Quiz 8 (Ch. 19)
13	Fri. 11/9//2023	Ch. 21 Plants form and function Ch. 22 Flowering plants	Lab report 13 Quiz 9 (Ch. 20)
14	Fri. 11/16/2023	Ch. 23 Tissues and organs	Lab report 14 Exam 4 (Ch. 19, 20, 21, 22)
	Fri. 11/23/2023	Thanksgiving Day- no class	
15	Fri. 11/30/2023	Ch. 26 Skeletal and muscular system	Lab reports 15

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16	Fri. 12/1/2023	Ch. 30 Animal reproduction	Lab report 16 Quiz 10 (Ch. 23, 26)
	Fri. 12/8/2022	Exam 5- Final Exam (Ch. 23, 26, 30)	