IMPERIAL VALLEY COLLEGE

Basic Course Information

Semester:	**Fall 2025**	Instructor Name:	**Asif Razee**
Course Title & #:	**Principles of Biological Sciences – BIOL 100**	Email:	asif.razee@imperial.edu
CRN #:	**10470**	Webpage (optional):	**Canvas**
Classroom:	**2717**	Office #:	
Class Dates:	**8/11/25 – 12/6/25**	Drop- in Hours:	**T/Th: 11:15am-12:15Pm**
Class Days:	**T/Th**	Office Phone #:	
Class Times:	08:00 – 11:10 am	Emergency Contact:	asif.razee@imperial.edu
Units:	4	Class Format/Modality:	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 lev el 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 AB 705.

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.

Textbooks & Other Resources or Links

Textbook

- OpenStax Concepts in Biology - Achieve Access (Macmillan learning). Required for graded homework.
  - $39.95 if purchase through our Canvas course (Macmillan Higher Education navigation link)

Please note: your textbook for this class is available for free online! If you prefer, you can also get a print version at a very low cost. Concepts of Biology from OpenStax, Print ISBN 1938168119, Digital ISBN 1947172034, www.openstax.org/details/concepts-biology

There are additional student resources available for this book as well and can be found on website listed above under "student resources".

For Lab:

LAB MANUAL TO ACCOMPANY BIOLOGY (CUSTOM IVC)
ISBN: 9781307871074
Author: Villalobos
Publisher: MCGRAW HILL (CUSTOM PUBLISHING)
This book is for sale from the IVC Bookstore. You will need a copy before your first lab.

Lab Goggles (for dissection lab)
Product # MMS011799053/0
Available at retailers such as Walmart, Target, Amazon.

Course Requirements and Instructional Methods

Course Structure – Lecture

Each week, approximately 3 hours will be devoted to lecture. This will be assessed through exams based on lecture material. The reading material related to the content of the lecture should be read before class. Successful students typically spend 3-5 hours of studying outside of class for each credit hour of class (i.e., 4 credit hours x 3 = 12 hours per week minimum in addition to class time).

The course material is presented as PowerPoint slide shows, using a combination of traditional lecture, interactive videos and active learning strategies, such as discussions, and in class activities (ICA) to aid your learning, all of which are available on the Canvas site for this course. You are expected to come to class having looked over the materials presented in the textbook. This will help you engage during the class. You have an obligation to the others in the class to participate in creating an excellent learning environment in our classroom.

**Before each class meeting you should skim over the lecture material. During our scheduled lecture class time, in addition to lecture, we will use the following components to review the material in preparation for your exams.*

Active learning: This class has been structured to be an active learning environment. Our class will require that students review the material ahead of time, using some in class time to interact with myself and your peers. We will be using practice questions, small group work, real world applications, and watching short video clips, to

actively engage in the learning process. In order to have a successful active classroom, attendance and participation are extremely important. Participation will be counted towards your grade, but more importantly by engaging in the in-class activities, you will learn critical thinking and problem-solving skills that will help you prepare for exams and succeed in this course.

In class activities (ICA): Attendance and participation are essential to doing well in this class. In order to gauge your level of understanding, improve course participation, earn points, and make our class more fun and engaging, we will be using in class activities (ICA). ICA are practice questions related to the lecture topics. Each day's questions have the same contribution to your overall grade. ICA questions are graded by participation, not correctness. **To earn participation points for each class session, you must answer ALL of the questions polled.**

Online weekly quizzes: 15 Online Weekly Quizzes (from Achieve) will be given throughout the semester. Students may take them an unlimited number of times before the deadline and the highest score will be entered into your grade book. The Online Weekly Quiz will be available on Friday at midnight. You will have one week to complete them. All Online Weekly Quizzes will be due every Thursday at 11:59 PM. To access Achieve quizzes, go to Modules and click on Achieve quizzes. This will take you to our course home on Achieve, where you can click on assessment and find the due dates for assigned quizzes. The actual exam questions will resemble these quiz questions, so taking these quizzes will prepare you to succeed in the exams while you're earning quiz points.

Lecture Exams: There will be 4 Lecture exams worth 100 points each (400 points total). Exams will happen during class time. These exams can include multiple choice, short answer, true/false, matching, and fill in the blank questions. Figures from lecture and/or the textbook may appear. Be sure to bring a few writing utensils. Exams must be submitted in pen if the student wishes to request a regrade on a question.

Students wishing to use accommodations must be approved by Accessibility Services. If a student with accommodations takes the exam in the classroom, the student must abide by the same exam policies as the rest of the class.

Students may review their exams during office hours.

During testing, all electronic devices Bluetooth earpieces, headphones, caps, hats or other headgear are to be removed. Phones, smart watches, and computers are to be turned off, and put away. No calculators may be used.

If the student accesses any communication device during the testing period, the student's exam will be counted as a zero. If a student is caught sharing answers with another student, both students' exams will be removed and counted as a zero. If any semblance of cheating, plagiarism, or otherwise counting another's work as your own, is discovered, I will recommend the student to the Dean of Students for further disciplinary action.

Lab worksheets: Each week, approximately 3 hours will be devoted to lab. This will be assessed through lab worksheets and exams. There will be 12 lab worksheets worth 25 points each (300 points total). Lab worksheets are due at the end of lab. Your lab group will be responsible for submitting your worksheet every week. You are responsible for making sure everyone's name is on the worksheet. Students must stay in lab until everyone in their lab group has completed the entire lab. Leaving before your lab group is done will result in a 0 for that lab assignment. The lab groups must also clean their lab area before leaving to receive full points for their lab assignments (up to 20% of points for the entire assignment can be deducted if the group leaves a messy lab station). These assignments cannot be made up because lab rooms are set up only for the day of the lab. Students may get their missed lab assignment excused with valid documentation. No more than 2 lab assignments will be excused. This documentation must be provided by email within 48 hours of the missed lab. Exceptions to this 48 hour timeline will only be allowed in cases where the student was incapacitated for this time (ex. Hospitalization).

Lab Exams: There will be 2 lab exams worth 100 points each (200 points total). These will happen during the laboratory time. These exams can include multiple choice, short answer, true/false, fill in the blank, and practical (application) questions. For some questions you may need to complete a task (such as take measurements) to answer the question.

Lecture and Lab exams must be taken on the specified day, during the specified class time. There will be no makeup exams, except for extreme circumstances (ex. illness, emergency). If you have a valid and documentable reason for missing an exam it is your responsibility to inform me (the instructor) within 48 hours of the missed exam and provide documentation for the day of the exam. This must be done by email. Exceptions to this 48 hour timeline will only be allowed in cases where the student was incapacitated for this time (ex. Hospitalization).

Without this you will be unable to make up the exam and will a grade of 0 will be entered into the gradebook. Any make-up exams regardless of reason may be administered the **final week** of the semester and may be an oral examination. Failure to show up for the makeup will be treated the same way as missing the original exam day. Work conflicts, family conflicts, travel, or forgetting about the exam do not count as valid excused absences.

Final Project: There will be 1 group project with written report and ppt presentation worth 60 points. This project will be assigned and completed during lab. See schedule.

Spelling and grammar (within reason) count on all written assignments. If spelling or grammar impede my ability to understand your answer you will lose points.

Extra Credit: 20 extra credit points will be available to earn throughout the course, by completing and submitting various assignments related to course content, student reflections and course design. I also often give extra credit in the form of bonus questions on exams. If I choose to do so, everyone will receive the same opportunities to earn the extra points.

Late, Missed, Re-assigned Work

DUE DATES

All assignments have a due date that corresponds to the end of the learning unit that is assessed with an exam. It is recommended that students complete all assignments *before* taking the Unit Exam that assesses the learning objectives reinforced in the respective chapters or assignments. Research has shown that students who regularly engage with course material, completing assignments according to the suggested timeline and due dates, score higher on exams and achieve higher grades in the course.

Equitable Evaluating Practices

This course employs equitable grading practices in which students are not heavily penalized for late submissions of assignments. Full points will be deducted for incomplete assignments, however, a partial deduction will be taken on the assignment for late submission, so long as it is submitted *before* the Content Unit exam. Work submitted after the Unit Exam will not be accepted.

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Course Grading Based on Course Objectives

There are a total of **1000 possible points** in the course. Multiple modes of learning assessment are offered at varying frequencies and point values to evaluate student learning objectives. In class participation (ICA) may vary in frequency compared to what is listed below.

Grade Components	Points Possible (% of overall grade)
4 Lecture Exams (100 points each)	400 points (~40%)
2 Lab Exams (50 points each)	100 points (10%)
Final group project	60 points (6%)
12 Lab worksheets (25 points each)	300 points (30%)
15 Online quizzes (4 points each)	60 points (6%)
20 In-class participation (ICA) (3 points each)	60 points (6%)
Extra Credit	20 points (2%)
Total Points	1000 points (100%)

GRADING POLICY

Grades earned at the end of the semester will be based only on the accumulated points from all the assessments. Your grades for each assignment will be available on Canvas as soon as the assignment has been graded. You should keep all returned assignments and exams. If there is a discrepancy between a posted grade and that on a returned assignment, please contact me immediately. You may calculate your grade at any time in the semester by dividing your accumulated points by the total points possible at that time. Grades will not be rounded up, even if you miss the next higher grade by a single point. A small number of extra credit points may be available to earn throughout the course, however there will be no opportunities to do extra activities outside of these to try to increase total points. Work hard to learn the assigned material, and your grade will reflect how successful you were at this.

Grade Breakdown:

A 90% +
B 80% - 89.99%
C 70% - 79.99%
D 60% - 69.99%
F less than 60%

Should I feel a grade adjustment is called for based upon the distribution of point totals across the entire class, I will adjust this grading scheme. However, anyone receiving ≥90% of all points is guaranteed at least an A, ≥80% of all points at least a B, and ≥70% of all points at least a C. The grade cutoffs might fall below these levels but will not be raised above them.

At the end of the term many students tend to email me asking me to round their grade. Decisions on grade adjustments, as per the policy above, are done once I can see the distribution of grades for the entire class. If any adjustments are made, they will be applied to all students in the course. Emailing me will not change your final grade. Because of this, I ask that you please refrain from emailing about grade adjustments.

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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.

My policy: AI use is not permitted in this class for any reason. Therefore, using AI in any capacity for any assignment where you would earn points will result in an automatic 0 for cheating.

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.
 Reusing work submitted in previous courses. I expect all work done in my courses to be original work for the student. A student is not permitted to reuse work done in previous courses (whether done in another course entirely or if the student is retaking this course).
While group work is encouraged and expected on labs, note that sharing work so that others may copy it without doing the work themselves is considered cheating and will result in a 0 on the assignment for both groups.

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 (f) using work from a previous course and submitting it for credit.

Accessibility Statement

Imperial Valley College is committed to providing an accessible learning experience for all students, regardless of course modality. Every effort has been made to ensure that this course complies with all state and federal accessibility regulations, including Section 508 of the Rehabilitation Act, the Americans with Disabilities Act (ADA), and Title 5 of the California Code of Regulations. However, if you encounter any content that is not accessible, please contact your instructor or the area dean for assistance. If you have specific accommodations through ***DSPS***, contact them for additional assistance.

We are here to support you and ensure that you have equal access to all course materials.

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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 the 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.
- For lectures, ICA will be used to gauge your level of understanding, improve course participation, earn points, and make our class more fun and engaging. This will count as your participation points. You must be present in class to earn these points.

Attendance alone is not enough. You must be prepared to benefit from the experiences provided by reading the lecture materials and doing the in-class activities. Since a great deal of information is covered during each class, presence in class and note taking are essential for success in this course.
Withdrawal policy: **It is my hope that you stay in this course for the entire journey! However, if you wish to withdraw, it is your responsibility to drop. Failure to drop may result in failing the course.**

Classroom Etiquette:
It is everyone's responsibility to create a fair, welcoming, productive, and collaborative learning environment. It falls on each of us to make sure the learning environment of our classroom is free from unnecessary distractions, personal attacks, and other disrespectful behavior. It is in your best interests and in the best interests of your fellow classmates to engage in each lesson to help us all achieve the learning goals set forth in the syllabus. Distracting and/or inappropriate behavior will be met with a warning and, if continued, will result in you being asked to leave the classroom until you are ready to engage with the material again.

Classroom Rules:

- No food or drink allowed during lab periods.
- Cell phones must be on silent and put away during the entire class period. Failure to do so will result in you being asked to leave. Cell phones are a distraction to you, me, and the other students in the class. If you need to take or make a call, please get up and return to class when you are done.
- No talking during lecture or other presentation portions of the class. It is distracting to everyone. If you have a question please raise your hand and I will happily address it. Students who continue to disrupt class after a warning will be asked to leave. Disciplinary procedures will be followed as outlined in the General Catalog.
- Due to college rules, no one who is not enrolled in the class may attend.

Additional Lab Safety Requirements:

Absolutely no food or drink (including water). If you need to drink water or eat you may step out and rejoin the class when you are done.

Wear closed toe shoes and other protective clothing. This is for your own safety.

Some labs will require safety goggles for your protection. You will need to provide your own goggles.

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Email Policy:

I will respond to emails within 1 business day. If a full business day has passed, send a follow-up email. Saturdays and Sundays are not business days. I do try to answer emails on the weekend, but I cannot guarantee them.

Tips to Help you Succeed!

1. Take charge of your learning! Make sure you come on time to all lectures and labs! Arriving late or missing a class for any reason (excused or unexcused) can cause you to miss lecture and lab material, and will only put you at a disadvantage in this class.
2. Make sure you know what will be happening each day for class! Keep the class schedule handy.
3. Skim through or read the chapter before coming to lecture, and lab activities before coming to lab. You will have a general feel for the subject matter, which will help your understanding of the material during lecture. You will also be more prepared to do the lab activity, and you can perform it better, quicker, and will be able to easily understand what is happening in the lab.
4. Pay attention during lectures! I will say things during lecture that are not written on the PowerPoint slides or the board that will be on the exams. Make sure you take good notes during class. Don't just mindlessly write down word-for-word what is on the slides.
Listen to what I have to say, and take notes on that also!
Look over notes consistently - keeping a schedule is helpful.
5. Study, study, study! I will not attempt to tell you how much time you need to set aside for studying, as different students will require different amounts of time to meet their goals. Ideally, you should study in an area where there are no distractions (television, radio, computers, iPods, other people, etc.). However, you should also spend time studying in groups. Nothing makes you learn the material better than having to explain it to someone else!
6. Don't cram! It's better to spend some time each week studying as compared to saving it all until the night before the exam.
7. It is not enough just to memorize facts! On the exams, you will be responsible for using the information learned and applying it to new situations. You need to understand what these facts mean!
8. Learn the material using different resources (notes, textbook, videos, study buddies, etc.)
9. Ask questions immediately when you have them – don't wait until last minute!
10. Find connections to material you learn in class with everyday life – it will make it easier to learn and remember the material!

Financial Aid

Your Grades Matter! In order to continue to receive financial aid, you must meet the Satisfactory Academic Progress (SAP) requirement. Making SAP means that you are maintaining a 2.0 GPA, you have successfully completed 67% of your coursework, and you will graduate on time. If you do not maintain SAP, you may lose your financial aid. If you have questions, please contact financial aid at finaid@imperial.edu.

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.
If you are experiencing illness (physical or mental) the health center is here for you! They can be found here: https://www.imperial.edu/student-support/student-health-center/
Notes from the health center are one form of documentation accepted for excused absences. Remember they must excuse you from the day you missed the exam/lab to be accepted.

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Anticipated Class Schedule/Calendar

Unit	Week	Date	Lecture Topic	Reading	Date	Lab Topic and Associated Lab Manual text
Unit 1	1	8/12	**Introduction** to the course & Scientific Method: How is science conducted?	Ch. 1	8/14	Lab Safety; Chapter 1 Introduction to Lab and Metrics; Chapter 2.1
			Chemistry: what molecules make up our world?	Ch. 2		
	2	8/19	**Biological Molecules**: proteins, carbs, lipids and nucleic acids!	Ch. 2	8/21	Chemical Composition of Cells; Chapter 3.1-3.3
			Cells: what are our cells made of?	Ch. 3		
	3	8/26	**Metabolism**: how do reactions happen in the cell?	Ch. 4	8/28	Microscopy; Chapter 2.3 – 2.5
			Cellular Respiration: getting energy from our food!	Ch. 4		
	4	9/2	Unit 1 EXAM		9/4	Cell Structure and Function; Chapter 4.2-4.4
Unit 2	5	9/9	**Mitosis and Cancer**: how do cells regenerate and what causes cancer?	Ch. 6	9/11	Enzymes; Chapter 5.1-5.3
			Meiosis: Nature's genetic slot machine	Ch. 7		
	6	9/16	**Genetics** How can we determine inheritance	Ch. 8	9/18	**Lab Exam 1 (Weeks 1-5)**
			Molecular Biology Part 1: How is DNA replicated?	Ch. 9		
	7	9/23	**Molecular Biology Part 2**: How are proteins made?	Ch. 9	9/25	Cellular Respiration; Chapter 7.2
			Biotechnology: How can biology save the world?	Ch. 10		
	8	9/30	Unit 2 EXAM		10/2	Photosynthesis; Chapter 6.2
Unit 3	9	10/7	**Evolution**: How does evolution fit into our history?	Ch. 11	10/9	Pig Dissection; Chapter 27,29 **THIS LAB REQUIRES SAFETY GOGGLES/GLASSES**
			Natural Selection and Speciation: How are species created?	Ch. 19		
	10	10/14	**Ecology and Ecosystems:** Survival of the Fittest in different parts of the world	Ch. 20	10/16	Mitosis/Cellular Reproduction 8.1-8.3
			Plant Diversity and Photosynthesis: learn about nature's food producers!	Ch. 5 & 14		
	11	10/21	**Invertebrate Diversity**: Learn the beauty and different animals that we share the world with!	Ch. 15	10/23	Senses; Chapter 31.2-31.4
			Vertebrate Diversity: Learn the beauty and different animals that we share the world with!	Ch. 15		
	12	10/28	Unit 3 EXAM		10/30	Plant Exploration 18.1-18.4
Unit 4	13	11/4	**Respiratory**: How does air flow through our system?	Ch.16	11/6	Respiratory, Circulatory
			Circulatory: How is transport of gases possible?	Ch.16		
	14	11/11	**HOLIDAY**		11/13	Digestion, Nervous system
	15	11/18	**Digestion**: What parts make up my	Ch.16	11/20	**Lab Exam 2 (Weeks 7-14)**

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			digestive system?			
			Neuroscience: Our world based on our brain	Ch.16		
	16	12/2	Unit 4 EXAM		12/4	**Group ppt presentation**

*****Subject to change without prior notice*****