

Basic Course Information

Semester:	Spring 2023	Instructor Name:	Dr. Daniel Gilison
Course Title & #:	Principles of Biological Science – BIOL 100	Email:	daniel.gilison@imperial.edu
CRN #:	20020	Webpage (optional):	http://www.imperial.edu/students/canvas
Classroom:	ONLINE	Office #:	2770
Class Dates:	2/13 – 6/9	Office Hours:	M, W 9-10 AM (Zoom) T 12-1 PM (2711) R 11-12 PM (2770)
Class Days:	M - R	Office Phone #:	(760) 355-5759
Class Times:	Asynchronous online	Emergency Contact:	(760) 355-5759 or daniel.gilison@imperial.edu
Units:	4	Class Format:	Asynchronous online

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: 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

- Fowler, S., Roush, R., and Wise, J. (2022) *Concepts of Biology*. Rice University. ISBN: 9787947172036
- Mader, Sylvia S. (2022). *Laboratory Manual to accompany Biology 14th edition, Custom Edition (14th/e)*. New York, NY McGraw-Hill. ISBN: 9781266244476

Course Requirements and Instructional Methods

1. There will be **4 on-line** exams, worth **100 points** each (**400 points** total). Exams will last 60 minutes, and will consist of 50 multiple choice questions dealing with lecture material. Figures from the lectures and textbook will appear on the exams. **Exams will use Honorlock and will need to be taken using Google Chrome.**
2. There will be **1 on-line** lab exam, worth **130 points**. This lab exam will cover all lab activities during the course. For this exam, you will view some results or other aspects from the lab and then answer questions about them. This exam will last 30 minutes and will consist of 26 multiple choice style questions.
3. There will be **9 on-line** lab worksheets worth **10 points** each (**90 points** total). Lab worksheets will be due on the date in the schedule listed at 11:59 PM.
4. There will be **21 on-line** homework assignments worth **10 points** each (**210 points** total). Homework will be due on the date in the schedule listed at 11:59 PM. Homework cannot be made up, except for extreme circumstances.
5. There will be **4 on-line** review quizzes for extra credit and they will be due on the date in the schedule listed at 11:59 PM. **Review quizzes will use Honorlock and will need to be taken using Google Chrome.**
6. Spelling and grammar count on all written assignments! You will lose up to **20% of the points** on each assignment if you have excessive spelling or grammatical errors.
7. There will be no make-up assignments, except for extreme circumstances. If you have a valid, documented reason for missing an assignment, it is **your responsibility** to tell me about it and provide valid documentation **as soon as possible (preferably BEFORE it is due)**, otherwise you will not have the opportunity to make it up, and will be given a **zero** for it. Work issues, family issues, travel, or forgetting to turn in assignments do not count as valid excuses.

Course Grading Based on Course Objectives

4 Exams	400 points	Grade	Points
1 Lab exam	130 points	A	747 - 830 points
9 lab worksheets	90 points	B	664 - 746 points
21 homework assignments	210 points	C	581 - 663 points
Total	830 points	D	498 - 580 points
		F	0 - 497 points

Course Attendance Policies

- 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.
- 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.
- The deadline for dropping a course without appearing on transcript is **Sunday, February 26**.
- The deadline for dropping a full-term class is **Saturday, May 13**.

Additional Help

1. Make sure you watch all lectures and labs! Not watching the lecture or lab videos, or just skipping through them, 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 watching the lectures, and lab activities before watching the labs. You will have a general feel for the subject matter, which will help your understanding of the material during lecture. You will also 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 that will be on the exams. Make sure you take good notes during lecture. 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!
5. Study, study, study! You should spend at least 6 hours studying for this class each week. You should study in an area where there are no distractions (television, radio, computers, music, other people, etc.). However, you should also spend time studying with other students (online, of course!). Nothing makes you learn the material better than having to explain it to someone else!
6. Spend time doing the online homework! It is there to help you learn the material, so not doing it, or waiting until the due date to start the homework will only hurt your grade in the class.
7. Don't cram! It is better to spend some time each day studying as compared to saving it all until the night before the exam.
8. 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!

ONLINE CLASSES:

1. Online classes are typically harder, not easier, for most students. You need to be self-sufficient with studying and keeping up with the material and work needed to be done for the class.
2. I will be sending out constant announcements about when lectures are available and when assignments are due. However, this is not a substitute for reading the syllabus and class schedule.
3. **Check your IVC email** constantly! All announcements and major forms of communication will be sent to it.
4. Exams and review quizzes will use **Honorlock**. You have to have [Google Chrome](#) to use Honorlock and after downloading it, you need to add the [Honorlock extension](#). I will give you a practice quiz first to check that everything works for you so there are no problems with the review quizzes or exams.
5. You need to **watch the full lectures** – and probably multiple times! Don't treat lectures like regular videos that you can just skip through. You need to treat the online lecture videos as if you were really in the classroom listening to the lecture. Not doing so will hurt your grade in this class.
6. Any questions about the course material or anything else about the class? Ask me! **DO NOT** rely on Google or random websites to get the information. If you are confused about something in the class, your primary resources should be the lecture videos, lecture notes, textbook, and myself.

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 (Mondays)	Lab (Tuesdays)	Lecture (Wednesdays)	Assignments (Thursdays)
2/13	Introduction to the class	Introduction to the lab	Ch. 1 – Introduction to Biology	Intro to Class quiz due
2/20	WASHINGTON'S DAY – NO CLASS	Metric Measurement (Lab 2.1)	Ch. 2 – Chemistry of Life Biology Homework due	Metric Measurement worksheet due
2/27	Ch. 2 – Chemistry of Life	Chemical Composition of Cells (Lab 3.1, 2)	Ch. 3.1-3 – Cells	Chemical Composition worksheet due
3/6	Ch. 3.4-5 – Membranes Chemistry Homework due	Microscopy (Lab 2.4-5)	Ch. 4.1 – Energy & Enzymes Cells Homework due	Microscopy worksheet due Membranes Homework due Exam 1 Review due
3/13	Exam 1 – Ch. 1-3	Cell Structure and Function (Lab 4.3-4)	Ch. 6.1-2 – Mitosis Energy Homework due	Cell Structure worksheet due
3/20	Ch. 7.2-3 – Meiosis	Enzymes (Lab 5.1-3)	Ch. 15.1 – Tissues Mitosis Homework due	Enzymes worksheet due
3/27	Ch. 16.3 – Circulation Meiosis Homework due	Cellular Division (Lab 8.1)	Ch. 16.2 – Respiration Tissues Homework due	Cell Division worksheet due
4/3	Circulation Homework due Respiration Homework due	Pig Dissection 1 (Lab 26.3, 27.5) Exam 2 Review due	Exam 2 – Ch. 4, 6, 7, 15, 16.3	No lab worksheet due
4/10	SPRING BREAK	SPRING BREAK	SPRING BREAK	SPRING BREAK
4/17	Ch. 16.2 – Digestion	Pig Dissection 2 (Lab 26.4-6, 27.5)	Ch. 16.1 – Urination	No lab worksheet due
4/24	Ch. 16.6 – Nervous System Digestion Homework due	Pig Dissection 3 (Lab 26.4-6, 27.5)	Ch. (not in text) – Senses Urination Homework due	No lab worksheet due
5/1	Ch. 9.1-2 – DNA Nervous System Homework due	Pig Dissection 4 (Lab 26.4-6, 27.5)	Ch. 9.3-4 – Gene Function Senses Homework due	Pig Dissection worksheet due DNA Homework due
5/8	Ch. 8 – Genetics Gene Function Homework due	DNA Isolation (Lab 11.3, 4) Exam 3 Review due	Exam 3 – Ch. 16.1-2, 16.6 (and Senses), 9	DNA Isolation worksheet due
5/15	Ch. 8 – Genetics	NO LAB	Ch. 6.3 – Cancer	No lab worksheet due
5/22	Ch. 11.1, 2, 5 – Evolution Genetics Homework due	Human Genetics (Lab 10.2)	Ch. 19.2-3 – Populations Cancer Homework due	Human Genetics worksheet due
5/29	MEMORIAL DAY – NO CLASS	Lab exam review	Evolution Homework due Populations Homework due	No lab worksheet due
6/5	Exam 4 Review due	NO LAB	Exam 4 – Ch. 8, 6, 11, 19	Lab Exam (all labs)