



Basic Course Information

Semester:	Winter 2022	Instructor Name:	Dr. Daniel Gilison
Course Title & #:	Principles of Biological Science – BIOL 100	Email:	daniel.gilison@imperial.edu
CRN #:	15034-15124	Webpage (optional):	http://www.imperial.edu/students/canvas
Classroom:	ONLINE	Office #:	2770
Class Dates:	1/3 – 2/3	Office Hours:	None
Class Days:	M - F	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

- Hoefnagels, M. (2021). *Biology: The Essentials* (4th/e). New York, NY McGraw-Hill. ISBN: 978-1-307-71201-8
- Mader, Sylvia S. (2022). *Laboratory Manual to accompany Biology 14th edition, Custom Edition* (14th/e). New York, NY McGraw-Hill. ISBN: 9781266244476
- IVC Bookstore: <https://www.bkstr.com/imperialvalleystore/home>
- Online textbook: <https://www.mheducation.com/highered/custom/product/9781307747874.html>

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. There will be no make-up exams, except for extreme circumstances. If you have a valid, documented reason for missing an exam, it is **your responsibility** to tell me about it and provide valid documentation **as soon as possible**, otherwise you will not have the opportunity to make up the exam, and will be given a **zero** for that exam. **Exams will be found on the Canvas site under the Assignments link. 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. There are no make-ups for this exam.
3. There will be **11 on-line** lab worksheets worth **10 points** each (**110 points** total). Lab worksheets will be due on the date in the schedule listed at 11:59 PM. **Lab Worksheets will be found on the Canvas site under the Assignments link.**
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. **Homework will be found on the Canvas site under the Assignments link.**
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 be found on the CANVAS site under the Assignments link. 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 extra credit available on some assignments.

Course Grading Based on Course Objectives

4 Exams	400 points	Grade	Points
1 Lab exam	130 points	A	765 - 850 points
11 lab worksheets	110 points	B	680 - 764 points
21 homework assignments	210 points	C	595 - 679 points
Total	850 points	D	510 - 594 points
		F	0 - 509 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, January 9**.
- The deadline for dropping a full-term class is **Wednesday, January 26**.

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 4 hours studying for this class each day. 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 (<https://www.google.com/chrome/>) and after downloading it, you need to add the Honorlock extension (<https://static.honorlock.com/install/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

Date	Lecture	Lab	Homework and Exam Reviews Due Date	Lab Worksheet Due Date
1/3 M	Introduction to the class	Introduction to the lab		
1/4 T	Ch. 1.1,3 – Scientific Study of Life	Metric Measurement (Lab 2.1)	Syllabus Quiz	Lab Safety
1/5 W	Ch. 2 – The Chemistry of Life	Metric Measurement 2 (Lab 2.1)	Study of Life	Metric Measurement
1/6 R	Ch. 3.1,2,4,5 – Cells	Chemical Composition of Cells (Lab 3.1, 2)	Chemistry	Metric Measurement 2
1/7 F	Ch. 3.3, 4.5 – Membranes	Microscopy (Lab 2.4-5)	Cells Honorlock Practice Quiz	Chemical Composition
1/10 M	Ch. 4.1,3,4 – Energy & Enzymes	Cell Structure and Function (Lab 4.3-4)	Membranes Exam 1 Review Quiz	Microscopy
1/11 T	Exam 1 – Ch. 1-4 (Membranes)	NO LAB		
1/12 W	Ch. 8.1,4,5 – Mitosis Ch. 9.1-6 – Meiosis	Enzymes (Lab 5.1-3)	Energy	Cell Structure
1/13 R	Ch. 23.1,2 – Tissues Ch. 27.1,3-5 – Circulation	Cellular Division (Lab 8.1)	Mitosis Meiosis	Enzymes
1/14 F	Ch. 27.6,7 – Respiration	Fetal Pig Dissection 1 (Lab 26.3, 27.5)	Tissues Circulation	Cell Division
1/17 M	NO CLASS – MLK Day	NO LAB		
1/18 T	Ch. 28.7 – Digestion	Fetal Pig Dissection 2 (Lab 26.4-6, 27.5)	Respiration Exam 2 Review Quiz	
1/19 W	Exam 2 – Ch. 4 (Energy), 8, 9, 23, 27	NO LAB		
1/20 R	Ch. 28.9,10 – Urination	Fetal Pig Dissection 3 (Lab 26.4-6, 27.5)	Digestion	
1/21 F	Ch. 24.1,2,4-6 – Nervous System Ch. 24.7-11 – Senses	Fetal Pig Dissection 4 (Lab 26.4-6, 27.5)	Urination	
1/24 M	Ch. 2.5D, 7.1, 8.2 – DNA Structure and Replication	NO LAB	Nervous System	Pig Dissection
1/25 T	Ch. 7.2,3,4,6 – Gene Function	DNA Isolation (Lab 11.3, 4)	Senses DNA	
1/26 W	Ch. 10.1,2,3,7,8 – Patterns of Inheritance	NO LAB	Gene Function Exam 3 Review Quiz	DNA Isolation
1/27 R	Exam 3 – Ch. 28, 24, 7, 8	NO LAB		
1/28 F	Ch. 8.6 – Cancer	Human Genetics (Lab 10.2)	Genetics	
1/31 M	Ch. 12.1,2,3,5 – Evolution Ch. 18.2,4,6 – Population Ecology	NO LAB	Cancer	Human Genetics
2/1 T	NO LECTURE	<u>Review for Lab Exam</u>	Evolution Populations	
2/2 W	NO LECTURE	Lab Exam (all labs)	Exam 4 Review Quiz	
2/3 R	Exam 4 – Ch. 10, 8 (Cancer), 12, 18	NO LAB		