

Basic Course Information

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|-------------------|--|---------------------|---|
| Semester: | Winter 2024 | Instructor Name: | Dr. Daniel Gilison |
| Course Title & #: | Principles of Biological Science – BIOL 100 | Email: | daniel.gilison@imperial.edu |
| CRN #: | 15016/15055 | Webpage (optional): | http://www.imperial.edu/students/canvas |
| Classroom: | ONLINE | Office #: | 2770 |
| Class Dates: | 1/2 – 2/2 | 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)

Successful completion of Intermediate Algebra or appropriate placement as defined by AB705.

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.



IMPERIAL VALLEY COLLEGE

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 **10 on-line** lab worksheets worth **10 points** each (**100 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 extra credit available on some assignments.
8. 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, or forgetting to turn in assignments do not count as valid excuses.

Course Grading Based on Course Objectives

| | |
|-------------------------|-------------------|
| 4 Exams | 400 points |
| 1 Lab exam | 130 points |
| 10 lab worksheets | 100 points |
| 21 homework assignments | 210 points |
| Total | 840 points |

| Grade | Points |
|--------------|------------------|
| A (90%+) | 756 - 840 points |
| B (80-89.9%) | 672 - 755 points |
| C (70-79.9%) | 588 - 671 points |
| D (60-69.9%) | 504 - 587 points |
| F (0-59.9%) | 0 - 503 points |

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.

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 (3 consecutive days for winter session) may be considered to have excessive absences and may be dropped.
- The deadline for dropping a course without appearing on transcript is **Monday, January 8**.
- The deadline for dropping a full-term class is **Friday, 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 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

| Date | Lecture | Lab | Homework and Exam Reviews Due Date | Lab Worksheet Due Date |
|-----------|--|--|--|-----------------------------|
| 1/2 T | Introduction to the class | Introduction to the lab | | |
| 1/3 W | Ch. 1 – Introduction to Biology | Metric Measurement 1 (Lab 2.1) | Intro to Class Quiz | |
| 1/4 R | Ch. 2 – Chemistry of Life | Metric Measurement 2 (Lab 2.1) | Biology HW | Metric Measurement 1 |
| 1/5 F | Ch. 3.1-3 – Cells Ch. 3.4-5 – Membranes | Chemical Composition of Cells (Lab 3.1, 2) | Chemistry HW | Metric Measurement 2 |
| 1/8 M | Ch. 4.1 – Energy & Enzymes | Microscopy (Lab 2.4-5) | Cells HW Membranes HW | Chemical Composition |
| 1/9 T | Ch. 6.1-2 – Mitosis | Cell Structure and Function (Lab 4.3-4) | Review Quiz for Exam 1 | Microscopy |
| 1/10 W | Exam 1 – Ch. 1-3 | NO LAB | | |
| 1/11 R | Ch. 7.2-3 – Meiosis | Enzymes (Lab 5.1-3) | Energy HW Mitosis HW | Cell Structure |
| 1/12 F | Ch. 15.1 –Tissues Ch. 16.3 – Circulation | Cellular Division (Lab 8.1) | Meiosis HW | Enzymes |
| 1/15 M | NO CLASS – MLK Jr. Day | NO LAB | | |
| 1/16 T | Ch. 16.3 – Respiration | Fetal Pig Dissection 1 (Lab 26.3, 27.5) | Tissues HW Circulation HW | Cell Division |
| 1/17 W | Ch. 16.2 – Digestion Ch. 16.1 – Urination | Fetal Pig Dissection 2 (Lab 26.4-6, 27.5) | Respiration HW Review Quiz for Exam 2 | |
| 1/18 R | Exam 2 – Ch. 4, 6, 7, 15, 16.3 | NO LAB | | |
| 1/19 F | Ch. 16.6 – Nervous System Ch (not in textbook) – Senses | Fetal Pig Dissection 3 (Lab 26.4-6, 27.5) | Digestion HW Urination HW | |
| 1/22 M | Ch. 9.1-2 – DNA | Fetal Pig Dissection 4 (Lab 26.4-6, 27.5) | Nervous System HW Senses HW | |
| 1/23 T | Ch. 9.3-4 – Gene Function | NO LAB | DNA HW | Pig Dissection |
| 1/24 W | Ch. 8 – Genetics | DNA Isolation (Lab 11.3, 4) | Gene Function HW Review Quiz for Exam 3 | |
| 1/25 R | Exam 3 – Ch. 16.1-2, 16.6, 24, 9, Senses | NO LAB | | |
| 1/26 F | Ch. 6.3 – Cancer | Human Genetics (Lab 10.2) | Genetics HW | DNA Isolation |
| 1/29 M | Ch. 11.1, 2, 5 – Evolution | <u>Review for Lab Exam</u> | Cancer HW | Human Genetics |
| 1/30 T | Ch. 19.2-3 – Populations | NO LAB | Evolution HW | |
| 1/31 W | NO LECTURE | NO LAB | Populations HW | |
| 2/1 R | NO LECTURE | Lab Exam (all labs) | Review Quiz for Exam 4 | |
| 2/2 F | Exam 4 – Ch. 8, 6, 11, 19 | NO LAB | | |