

Basic Course Information

Semester:	Spring - 2022	Instructor Name:	Charlotte Murray
Course Title & #:	Biol 100	Email:	Charlotte.murray@imperial.edu
CRN #:	20024	Webpage (optional):	NA
Classroom:	2713	Office #:	NA
Class Dates:	Lec. 2/15 & Lab. 2/17	Office Hours:	Any time by email or during class
Class Days:	Tuesdays & Thursdays	Office Phone #:	
Class Times:	6:30-9:40 p.m.	Emergency Contact:	Me By email
Units:	4	Class Format:	Face-to-Face

Course Description

(Letter Grade Only) ---

This class is 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 evolution, ecology and 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. (UC credit limited. See a counselor.) (CSU/UC)

Course Prerequisite(s) and/or Corequisite(s)

Prerequisite(s): Appropriate placement as defined by AB705; or MATH 091 or MATH 098 with a grade of "C" or better.

Student Learning Outcomes

Students will learn to use a microscope to identify various species of algae, protozoa, plants and animals and their parts. They will also learn much of the taxonomy of these species. They will be able to describe various cellular processes like photosynthesis, aerobic cellular respiration, enzymatic reactions, mitosis, and meiosis. Students will acquire a general knowledge of genetics and how genetic information is passed on to offspring. Students will learn about the likely origin of life on Earth and how the original species underwent adaptation and evolution to give rise to life as we know it today. Students will be presented with a general review of all five Kingdoms with the greatest focus on eight animal phyla. The students will understand how over time phyla acquired characteristics that made them more advanced than those phyla without these characteristics.

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 sub-cellular components for 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

- Lec. Text: Biology The Essentials (2nd 3rd or 4th edition) by Marielle Hoefnagels – ISBN 978-0-07-802425-2 The changes made in the newer editions are insignificant and not worth the extra money.
- Lab. Text: **Laboratory Outlines in Biology VI: Peter Abramoff, & Robert G. Thompson – ISBN 0-7167-2633-5**
- **I will provide the information for each lab. If you wish..... you can purchase this lab book.**
- **If you are going to buy a text... buy the Lecture Text --**

Course Requirements and Instructional Methods

For the lab; Students will learn to identify various species of algae, protozoa, plants and animals and their parts. They will also learn much of the taxonomy of these species. Students will see dissect animals from 4 phyla. Students will be able to describe various cellular processes like photosynthesis, aerobic cellular respiration, enzymatic reactions, mitosis, and meiosis. Students will acquire a general knowledge of genetics and how genetic information is passed on to offspring. Students will learn about the likely origin of life on Earth and how the original species underwent adaptation and evolution to give rise to life as we know it today. Students will be presented with a general review of all five Kingdoms with the greatest focus on eight animal phyla. The students will understand how over time phyla acquired characteristics that made them more advanced than those phyla without these characteristics. There will be weekly questions within the videos use to teach the lecture. The answers to these questions are within the videos. The point of the weekly questions is to act as a weekly roster... and to point out interesting and important concepts and encourage you to write and think in depth about these concepts and issues. Study guides will be posted in Canvas for both the labs and the lectures to assist with studying and to fill in additional details and information useful on quizzes. There will be a quiz after each the completion of each lecture chapter and after the completion of each lab (none of these quizzes is comprehensive).

Course Grading Based on Course Objectives

Class grading will be based on points accumulated in the following ways.

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| • 5 Lecture Exams covering chapters assigned | 100-170 points each |
| • 10 Lecture Quizzes 12 to 25 points each | Total points 150 – 200 points |
| • 5 Lab Exams 60-80 points each | Total points 350 |
| • Approximately 1300 points possible | |



Exams are mostly true/false and multiple choice type questions. They may also include essay and short answer questions. Missed quizzes and exams may be made-up. However, they must be made-up at the next class meeting unless otherwise discussed. **This means you need to come prepared to take that quiz or exam.** Asking to make-up missed quizzes or exams is your responsibility. Lab exams cannot be made-up as it takes hours to set them up. Grades will be calculated based on highest score in class being equal to 100%.

Grading: A = 100 – 90% B = 89 – 80% C = 79 – 70% D = 69 – 60% F = ≤ 59%

There is no extra credit offered. I need you to learn what I ask you to learn.

- This is my first semester back and in person. I updated my lectures a lot for remote teaching and I am not sure what it will do to lecture length per chapter. So, this schedule is going to be flexible. We will make this work together.
- I think this will be fairly accurate for the first 3 or 4 weeks. As problems arise I will make changes and update all of you by **Canvas Announcements** and in response to any questions you ask. I do worry about over loading you. . . “remote stuff” takes me longer than in person teaching – BUT coming back will be strange and we still have Covid and this may take you longer too. I just don’t know. . . .

Course Policies

Missed quizzes and exams may be made-up. However, they must be made-up at the next class meeting unless otherwise discussed. **This means you need to come prepared to take that quiz or exam.** Asking to make-up missed quizzes or exams is your responsibility.

Other Course Information

I will keep you updated with announcements through Canvas. I will respond to all emails sent to me as quickly as possible. Any lack of response to emails on my part is only because I did not see them.

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

- **Spring 2022 Schedule -- subject to modification.**

Week of:	Lecture Chapters	Lab. Subject & Page Numbers in lab. book
Feb. 15	1-- Sci. Study of Life, 2 – Chem. of Life	Roots & Stems pp 229-239
Feb. 22	2-- Continued & 3—Cells Chapter 4 pgs. 75-79	Sample Quiz On Roots and Stems Leaves, Flower Parts & Seeds pp 239-243
March 1	Rest of Chapter 3 Rest of Chap. 4 – The Energy of Life	Real - Quiz On Roots and Stems Quiz Leaves & Flower Parts
March 8	Exam Chapters 1, 2, 3, 4	Protozoa pp 185-193

March 15	6 – How cells Release Energy 8-- DNA Rep. Binary Fission & Mitosis	Algae pp 171-181
March 22	5 –Photosynthesis 9 Sexual Reproduction and Meiosis pg 154 to 163	Quiz Protozoa & Quiz Algae
March 29	Exam Chapters 5. 6. 8. 9	Cnidarians pp291, 293-297
April 5	Rest Chapter 9 & 10 – Patterns of Inheritance	Platyhelminthes pp303-310
April 12	Finish Chapters 10 12 – Forces of Evolutionary Change	Quiz Cnidarians Quiz Platyhelminthes
April 18-24	SPRING BREAK	
April 26	13 – Evidence of Evolution, 14 – Speciation and Extinction	Annelida pp 325-333
May 3	Exam Chapters 9, 10, 12, 13, 14	Crayfish pp 335-336 & 341-344 Grasshoppers pp 346-350
May 10	7 – Viruses pp126-133, Chap 15 Evol. of Microbial life.	Quiz Annelida Quiz Crayfish Quiz Grasshoppers
May 17	16 – Evolution of Plants	Starfish pp 351-354 Amphioxus pp 359-360
May 24	17 --- Evolution of Animals	Frog 393-396 & 405-406
May 31	17 – Animals Continued up to pg. 343	Catch up on lecture if needed
June 7	Lecture Final... Chapter 16 & 17	Lab Final Quiz Starfish Quiz Amphioxus Quiz Frog

Tentative, subject to change without prior notice

Important dates:

Feb. 26 → Deadline to drop full-time classes and be eligible for a refund

May 14 → Last day to drop with a W

April 29 → Deadline to submit Petition for Graduation and participate in Commencement

June 10 → Deadline to receive degree or certificate at the end of Spring and not participate in Commencement.