

### Basic Course Information

Semester:	<b>Fall - 2022</b>	Instructor Name:	<b>Charlotte Murray</b>
Course Title & #:	<b>Biol 100</b>	Email:	<b>Charlotte.murray@imperial.edu</b>
CRN #:	<b>10565</b>	Webpage (optional):	<b>NA</b>
Classroom:	<b>2713</b>	Office #:	<b>NA</b>
Class Dates:	<b>Lec. 8/15 &amp; Lab. 12/10</b>	Office Hours:	<b>Any time by email or during class</b>
Class Days:	<b>Tuesdays &amp; Thursdays</b>	Office Phone #:	
Class Times:	6:30-9:40 p.m.	Emergency Contact:	<b>Me By email</b>
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 (2<sup>nd</sup> 3<sup>rd</sup> or 4<sup>th</sup> 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.

- |   |   |
|---|---|
| • 12 Lecture Exams covering chapters assigned | 45- 120 points each Total points approximately 1000 |
| • 12 Lab Exams 60-80 points each              | Total points 800                                    |
| • 1 – 10 Quizzes                              | 20 points each – Max 200 points                     |
| • Approximately 2000 points possible          |   |



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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 =  $\leq$  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

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

Week of:	Lecture Chapters		Lab. Subject & Page Numbers in lab. book
Aug. 16	1-- Sci. Study of Life, 2 – Chem. of Life	Aug 18	Roots & Stems pp 229-239
Aug 23	2-- Continued Start Chapter 3—Cells – Membranes	Aug 25	Quiz Roots and Stems Leaves, Flower Parts & Seeds pp
Aug 30	<b>Chapter 1 &amp; 2 Exam – about 45 Questions</b> Chapter 4 pgs. 75-79 Membranes Rest of Chapter 3 -- Organelles Chap. 4 – The Energy of Life	Sept 1	Quiz Leaves & Flower Parts
Sept. 6	Rest of Chapter 4	Sept 8	Protozoa pp 185-193
Sept. 13	<b>Chapters 3 &amp; 4 Exam – about 55 Questions</b> 8-- DNA Rep. Binary Fission & Mitosis	Sept 15	Algae pp 171-181
Sept. 20	<b>Chapter 8 Exam – about 25 Questions</b> 9 Sexual Reproduction and Meiosis pg 154 to 163 5 –Photosynthesis	Sept 22	Quiz Protozoa & Quiz Algae
Sept 27	<b>Chapter 9 Exam – about 20 Questions</b> <b>Chapter 5 Exam – about 30 Questions</b> 6 – How cells Release Energy 10 – Patterns of Inheritance (4 hours)	Sept 29	Cnidarians pp291, 293-297
Oct. 4	<b>Chapter 6 Exam – About 34 Questions</b> 10 – Patterns of Inheritance continued	Oct 6	Platyhelminthes pp303-310
Oct. 11	Finish Chapters 10 + the rest of Chapter 9 12 – Forces of Evolutionary Change	Oct 13	Quiz Cnidarians Quiz Platyhelminthes
Oct. 18	<b>Chapter 9 &amp; 10 Exam – About 40 Questions</b> Rest of Chapter 12 13 – Evidence of Evolution	Oct20	Annelida pp 325-333
Oct. 25	<b>Chapter 12 Exam – About 40 Questions</b> Rest of Chapter 13 14 – Speciation and Extinction	Oct 27	Quiz Annelida
Nov. 1	<b>Chapter 13 Exam – About 25 Questions</b> <b>Chapter 12 Exam – About 30 Questions</b> 7 – Viruses pp126-133, Chap 15 Evol. of Microbial life. (Prokaryotic life)	Nov 3	Crayfish pp 335-336 & 341-344
Nov. 8	<b>Chapter 7 Exam – About 30 Questions</b> Rest of Chapter 15	Nov 10	Quiz Crayfish
Nov. 15	<b>Chapter 15 Exam – About 40 Questions</b> 17 --- Evolution of Animals	Nov 17	Starfish pp 351-354 Amphioxus pp 359-360
<b>THANKGIVING BREAK November 19 – 23</b>			
Nov. 29	17 – Animals Continued up to pg. 343	Dec 1	Frog 393-396 & 405-406
Dec. 6	Lecture Final... Chapter 17	Dec 8	Lab Final Quiz Starfish Quiz Amphioxus Quiz Frog

\*\*\*Tentative, subject to change without prior notice\*\*\*

**Important dates:**

**August 28 → Deadline to drop full-time classes and be eligible for a refund**

**November 5 → Last day to drop with a W**

**Dec. 9 → Deadline to submit Petition for Graduation and participate in Commencement**