

## **BIOLOGY 141 - General Biology**

Lecture: M, T, TH, F 10:15-11:15 Room: 1819 AB

**Instructor:** Dr. Jim Cohen  
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Student hours: M, T, TH 11:15-12:20 or by appointment

**Course Objectives:** Biology is the science of life. The study of plants, animals, fungi, bacteria, and other organisms, their cellular and chemical processes, and the interactions between and among various organisms are part of this area of science. Through this course, you will gain a greater understanding of the natural world and the organisms that inhabit it.

According to Socrates, "Education is the kindling of a flame, not the filling of a vessel." By gathering and discussing biological knowledge throughout this course, you will have the opportunity to stoke your intellectual flame. If you do so, your flame will burn brighter, and your ability to create, analyze, and synthesize information will grow. If not, the kindling will sit idle, not helping build the fire of your biological intellect.

**Learning Objectives:** Upon successful completion of this course, you will understand:

- the basic biochemistry of the four main classes of macromolecules
- the components of the cell and their functions
- cell division
- taxonomy and be able to describe families, populations, communities, and biomes
- evolution
- single-celled organisms and multi-cellular organisms

**Text:** *Inquiry into Life 15th Ed.* by Sylvia Mader, ISBN: 1259426165  
Additional readings will be provided.

### **Grading:**

Exam 1	125 points
Exam 2	125 points
Discussion and Written Assignments	150 points
Quizzes	100 points
Discussion presentation	30 points
Short-answer questions	20 points
Final Exam (Cumulative)	150 points
<b>Total</b>	<b>700 points</b>

**Quizzes:** Be prepared for weekly quizzes at the end of each Friday's class. If you do not hear otherwise, there will be a quiz on the class material covered from the preceding two classes prior to the quiz.

**Make-up Exams and Late Assignments:** Turning in assignments after the deadline or scheduling a make-up exam will not be possible unless you discuss the matter with the professor at least 24 hours before the assignment is due or the test is administered. Should there be extenuating circumstances (e.g., severe illness, funeral, accident), contact me as soon as possible in order to reschedule. Should you not follow these guidelines, you will receive a zero for the assignment or exam.

**Exam and Quiz Review:** While I am, of course, happy to answer any questions that you have on your assignments, before we meet to discuss any questions you have on exams and quizzes, you must fill out and bring with you to the meeting a completed Post-Exam/Quiz Analysis to demonstrate that you have thoughtfully examined your own exam or quiz and tried to identify any issues.

**Class Behavior:** Be respectful of your classmates, and do not disturb them by talking in class, arriving late, or participating in other disruptive behavior. Furthermore, you are not permitted in class to use cellular phones, pagers, two-ways, or other similar types of devices. If you use your cellular phone or other device in class, you may be asked to leave class due to the disruptive nature of your activity. Remember to act as you wish others would act.

**Email Policy:** I will respond to emails within 48 hours of receiving them, but only if the email includes all of the following: subject, salutation, body, and signature. Correct spelling and grammar are expected.

**The instructor can change the class rules at any time throughout the semester, if he deems it necessary to do so.**

## Class Schedule

<b>Date</b>	<b>Lecture Topic</b>	<b>Reading Assignment</b>
Oct. 7	Introduction to class and pre-assessment	Chapter1
Oct. 8	Introduction to life	Chapter1
Oct. 10	Building blocks of life 1	Chapter 2
Oct. 11	Building blocks of life 2	Chapter 2
Oct. 14	The cell 1	Chapter 3
Oct. 15	The cell 2	Chapter 3
Oct. 17	The Central Dogma 1	Chapter 25
Oct. 18	The Central Dogma 2, DNA Discussion, Quiz	Chapter 25
Oct. 21	Cell division and mutation 1	Chapter 5
Oct. 22	Cell division and mutation 2	Chapter 5
Oct. 24	Cell transport 1	Chapters 4 and 6
Oct. 25	Cell transport 2, Cell discussion, Quiz	Chapters 4 and 6
Oct. 28	Metabolism and Cellular Respiration 1	Chapter 7
Oct. 29	Metabolism and Cellular Respiration 2	Chapter 7
Oct. 31	Photosynthesis 1	Chapter 8
Nov. 1	Photosynthesis 2, Quiz	Chapter 8
Nov. 4	Exam review	
Nov. 5	<b>Exam 1</b>	
Nov. 7	Plants 1	Chapters 9 and 10
Nov. 8	Plants 2	Chapters 9 and 10
Nov. 11	Plants 3	Chapters 9 and 10
Nov. 12	Plants 4 and Plant discussion	Chapters 9 and 10
Nov. 14	Genetics 1	Chapters 23 and 24
Nov. 15	Genetics 2, Quiz	Chapters 23 and 24
Nov. 18	Evolution 1	Chapter 27
Nov. 19	Evolution 2	Chapter 27
Nov. 21	Evolution 3 and Species discussion	Chapter 27
Nov. 22	Evolution 4, Quiz	Chapter 27
Nov. 25	Exam review	
Nov. 26	<b>Exam 2</b>	
Nov. 28, 29	No class	
Dec. 2	Microbiology 1	Chapter 28
Dec. 3	Microbiology 2 and Microbiology discussion	Chapter 28
Dec. 5	Botany survey 1	Chapter 30
Dec. 6	Botany survey 2, Quiz	Chapter 30
Dec. 9	Animal survey 1	Chapters 31 and 32
Dec. 10	Animal survey 2	Chapters 31 and 32
Dec. 12	Ecology 1	Chapters 35 and 36
Dec. 13	Ecology 2, Quiz	Chapters 35 and 36
Dec. 16	Conservation biology	Chapter 37
Dec. 17	Conservation biology discussion	

### **Nine tips to help you succeed in General Biology**

- 1) **Read the text before class.** This will help you be familiar with material that we are covering in class that day. Reading before class provides you with three benefits. First, it allows you to have a basic understanding of what we will discuss; second, you have already familiarized yourself with the material, so hearing it in class is the second time you are going over the topic; and third, since you have already gained a basic comprehension of the topic, you know which parts you didn't understand, and therefore, you can ask questions on those specific issues.
- 2) **Being in class involves active participation, so take notes.** This allows you to digest the material that we discuss, and put it in your own words. After class, you will be able to use these notes to review the material we cover.
- 3) **If I say something that does not make sense, if you want more information, or if you want to know why we are discussing a topic, ask a question.** If you ask the question, and I have the opportunity to clarify material for everyone in the class, then everyone understands the material better than they otherwise would have. If you do not feel comfortable asking questions in class, come and talk to me later, or send me an email.
- 4) **Review your notes.** After class, later that evening, or a couple of times a week, go over your notes. For every hour you are in class, you should spend 2-3 hours studying the class material. Since we will have weekly quizzes, this provides you with a good opportunity to review your notes at least once a week (although I would recommend more often). By reviewing, you continue to keep the material fresh in your mind, and this helps you to learn the material. Additionally, this helps you to not get overwhelmed before exams, because if you haven't kept up with the material, you are cramming. Cramming does not lead to one of the desired outcomes of the class: long-term understanding of and appreciation for biology.
- 5) **Study with your friends.** A weekly study group helps to ensure that you will review the material outside of class. If you do not understand something, perhaps one of your classmates does. Discuss these topics, try to figure out answers, and if something still does not make sense, come and see me.
- 6) **Attend lecture.** If you come on time to each class, you will get the most benefit from lectures and discussions. If you miss a class, get the notes from a friend, or come and see me.
- 7) **Attend lab.** Lab and lecture are intertwined. The topics that we discuss in lecture will be examined with hands-on lab exercises. This will help you retain the material better.
- 8) **Turn in all assignments.** If you do not turn in assignments, your grade suffers. For example, if you do not turn in half of the discussion assignments, your grade will drop by 6%. That means the highest grade you can receive is a 94%.
- 9) **Figure out how you learn.** People learn in different ways. The way that you and I learn may differ, so you have to discover the way that you learn best (e.g., reading, listening, writing, looking at diagrams, drawing diagrams, etc.) and try to learn in that framework.

### **Five Tips from Former General Biology Students**

- 1) Be sure to study after class and if possible read the text or powerpoint before class.
- 2) Go in depth with your studying as well as your answers on tests and quizzes. He is looking for in depth understanding not just a surface overview of the subjects.
- 3) Read the material before coming to class.
- 4) Attend all the lectures and take careful notes of the powerpoint slides and this class will not keep you up past bedtime.
- 5) Don't postpone studying, review notes early and ask for clarification. A lot of the material won't be on the slides, so make sure you pay attention.