

**BIOL 1150 “General Biology II”
CSU Stanislaus
Course Syllabus**



Instructor: Dr. Sara Emerson
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Office Hours: Mon 2-3 pm, Thurs & Fri 11am – 12 pm or by appointment.
Lecture: TR 12:30 – 1:45am, DBH 166

Pre-requisite: Pass BIOL 1050 with a C- or better, or high school biology with a B or better. Students who do not meet this pre-requisite will be dropped from the course, no exceptions. Also, if you are a transfer student from a local community college, you must take the entire general biology sequence either on this campus or at your CC and transfer both classes here. If you are hoping to “split” the sequence between CC and us, it won’t work (complicated articulation rules that University has set).

Course Description: As with BIOL 1050, the purpose of BIOL 1150 is twofold: (1) to introduce students to the breadth of the biological sciences and (2) to help beginning biology majors master fundamental concepts, theories, and skills needed for success in later courses. This course is the second in the two-course majors’ intro biology series, and emphasizes evolution, organismal biology including diversity of life, and ecology. Course learning objectives will be met through a combination of lecture and lab experiences. **A grade of C or better is required to move forward into upper division biology courses.**

This is a survey course that covers a lot of material at a rapid pace. I will ask you to think at high cognitive levels beyond basic memorization of facts, and how to apply what you learn in this class to choices you make in your life and professional career. **This course is fast paced, language intensive, and utilizes basic algebra, calculus and statistics. It is critical that you spend considerable time outside of class actively studying to be successful in the course!**

There is a required lab section for this class, for which you register separately. Along with this lecture section, you should be enrolled in one of the following lab sections:

Section	Day & Time	Lab Instructor
BIOL 1150-002	Mon 8-10:50 AM	Dr. Emerson
BIOL 1150-004	Weds 8-10:50 AM	Dr. Emerson
BIOL 1150-008	Tues 2 – 4:50 pm	Dr. Emerson
BIOL 1150-009	Thurs 6 – 8:50 pm	Dr. Kelly

All lab sections meet in Naraghi 206. Note that your lab course will have a separate syllabus and course page in Blackboard. Points earned in lab factor into your overall BIOL 1150 grade; you will receive only one grade for BIOL 1150 despite being enrolled in two separate sections.

Text: *Campbell Biology in Focus, 2nd edition* by Urry et al. The one you get at CSU Stan bookstore is a loose-leaf version. Of course, you can also find the text online. The new text from our bookstore comes with an access code for a website called Modified Mastering Biology (MB); you will do your homework assignments on this web site (120 points, see below). You should be able to sign up for the homework by itself if you are using a used version of the text or just the ebook.

Course Goals: As this is a B2 General Education course, the overarching goals of the course are to:

1. Develop the intellectual skills and competencies necessary to participate effectively in society and the world.

Outcome 1.4 of this goal will be assessed in the course:

Apply quantitative reasoning concepts and skills to solve problems. Outcomes will be assessed in the estimating the age of the Earth Lab and lecture concept review assignment, population growth online lecture assignment (chapter 40) and questions 32, 34 and 35 of the final lecture exam, and the species diversity lab.

2. Develop broad knowledge of biological and physical sciences, humanities and creative arts, and social sciences. Outcomes 2.1 and 2.2 of this goal will be assessed in the course:

2.1 Explain and apply basic scientific methods

Outcomes will be assessed in the prokaryote experiment lab, phylogenetics lab and tree assignment in lecture, biodiversity survey lab assignment, and ecology research lab project.

2.2 Demonstrate an understanding of the living and non-living physical world

Understanding the living world will be assessed in all assignments, quizzes, and exams in lecture and lab. Understanding the non-living physical world will be assessed in the estimating the age of the Earth Lab and questions 32, 34, 36, and 38 of lecture exam 1, and with respect to the interaction of the biotic and abiotic world (ecology) in the online lecture homework for chapter 40 and in questions 30, 39, and 48 on the final lecture exam.

In a broad sense, when completing this class you should be able to:

1. *Demonstrate your ability to think like a biologist;*
2. *Speak & write coherently about biology with biologists and non-biologists alike;*
3. *Apply biological knowledge to make informed decisions in your life.*

More specific to biology, you should be able to articulate how:

1. *All living things arise from a common ancestor.*
2. *Species evolve over time and how new species arise.*
3. *Phylogenies/Cladograms can be used to show relatedness of species and the evolution of new species from ancestral ones over time.*
4. *Individuals transmit genetic information to offspring, and how some alleles confer higher fitness than others in a particular environment.*
5. *Genotypes influence ranges of phenotypes in individuals, and how actual phenotypes result from interactions between alleles and the environment.*

6. Natural selection leads to the evolution of structures that tend to increase fitness within the context of evolutionary, developmental, and environmental constraints.
7. Energy and matter flow between organisms and the abiotic environment.
8. At each trophic level in an ecosystem there is less energy available than the preceding level.
9. The size and structure of populations is dynamic.
10. Within ecosystems, interactions between individuals form networks, and how changes in one node of a network can cause changes in other nodes, directly or indirectly.
11. Biodiversity impacts many aspects of ecosystems.

As learners and citizens of this class you should be able to:

1. Practice self-assessment and reflection while developing the necessary study skills for success in science coursework.
2. Use scientific inquiry as a means of understanding the natural world.
3. Make connections between the facts of science and its relevance to broader societal issues.
4. Demonstrate a professional and respectful manner when communicating and working with peers, instructors, and staff, as practice for success in the workplace and community.

Participation and Attendance: Please arrive to class on time and ready to learn. I expect all students to attend every class session. Plenty of research shows that final grades are positively correlated with attendance and attention. To this end **you will be able to earn classroom activity points in every class meeting, but cannot make them up if you are absent.** The only exception is when the university requires you to miss class. Therefore, student athletes or others who will miss class for CSU Stan required events should contact me directly for each missed class. You will talk and work frequently in small groups, and sometimes present your ideas to the entire class. Most importantly, please do not disrupt the learning environment, rights, and property of others.

Respectful Classroom Atmosphere: Everyone deserves to study and work in a respectful, non-hostile environment. Moreover, all students, faculty and staff are responsible for preventing harassment, or reporting it if it occurs. Please keep in mind that a standard of polite, respectful behavior is expected.

iClickers: You will need to purchase/rent/reuse an iClicker remote device, available at the CSU Stan bookstore (\$30 - \$47). Register it on Blackboard. Expect to use it most days in class.

Assignments: Assignments will come in the form of online and in-class concept reviews and case studies. **If you are absent, you cannot make up the in-class points: One of many reasons to attend every class!** If you are absent from class you cannot make up clicker or concept review points. In addition, I give extra credit for 2-page summaries of course material. There are four possible summaries that you can write, each due before the corresponding exam.

Exams: There are four multiple choice exams. You will need to *bring your own* Scantron forms (882-E) for all exams. Requests for early exams must be submitted *in writing* prior to the scheduled exam with evidence of your hardship. If you miss an exam and have to make it up, you will also need to provide strong evidence of hardship. Electronics of any kind are *strictly forbidden* during exams. If you are seen

with your phone on your desk, lap, etc., that constitutes cheating, and appropriate consequences will occur. **No makeup exams will be given after graded exams are returned to the class.**

Special Accommodations and Recording Lectures: This course is ADA accessible. Students with documented disabilities should seek special accommodations for all classes through the Disability Resource Services office on campus (MSR 210). If DRS notifies me that you require ADA accommodations, then you will receive them. Examples of ADA accommodations include extra time for exams, permission to record lectures, and note-taking assistance.

Grades: There are 1000 points possible in this course (plus 20 extra credit):

Activity/Assignment	Points	Grading Scale
Midterm Exams (x3)	300	A = 90 – 100%
Final Exam	130	B = 80 – 89%
Concept Reviews (x10)	50	C = 70 – 79%
Online Homework	120	D = 60 – 69%
Clicker Questions	100	F = 59% or below
Lab section	300	
TOTAL	1000	

* **Extra Credit Summaries (x4) 20 points possible**

Getting Help & Study Skills: The following suggestions may help you succeed in this and other classes.

1) **Read the assigned pages** before class and bring your questions to class. 2) **Attend class** and participate actively. 3) **Complete all assignments** and turn them in on time. 4) **Take notes** in a way that is helpful to you, even if you have to use a lot of paper. 5) **Join a study group!** Students who study in groups tend to do better than those that study alone. 6) **Study** for the exams well before the morning of the exam. 7) **Learn how you learn** and then stick with a style or process that is successful for you. Deep learning takes time and is impossible to do in a single session before an exam. **Form a study group that meets regularly** so you can talk about new concepts and review terminology.

There is help on campus for students struggling with biology!

1. The **Central Valley Math & Science Alliance**, located in 124 Naraghi Hall, is a free walk-in science and math tutoring center. With both student and faculty tutors available from 9am – 5pm daily, there should be someone available to answer your questions.
2. The **Biology Club** is a group of students who have gone through general biology courses and they are willing to offer advice and help, especially if you buy them coffee or bring them cookies.
3. **Tutoring Services** on the ground floor of the CSU Stan Library (L-112) has drop-in tutoring for biology; check their office or website for their schedule.
4. The **Advising Resource Center** (MSR 180).
5. **Student Support Services** (MSR 230).
6. **Program for Academic and Career Excellence (P.A.C.E.)** in MSR 245

TENTATIVE LECTURE SCHEDULE:

WEEK	DATE	TOPIC(S)	Read:
1	Jan 25	Intros, syllabus, Evidence for Evolution	Syllabus, Ch. 19
2	Jan 29	Evidence for Evolution, Phylogeny	Ch. 19, 20
	Jan 31	Phylogeny	Ch. 20
3	Feb 5	Origin of Species	Ch. 22
	Feb 7	Patterns of Evolution	Ch. 23
4	Feb 12	Prokaryotes	Ch. 24
	Feb 14	Prokaryotes	Ch. 24
5	Feb 19	Catch up/Review	Ch.19, 20, 22-25
	Feb 21	MIDTERM #1	Ch.19, 20, 22-25
6	Feb 26	Protists	Ch. 25
	Feb 28	Plants	Ch. 26, 28-31
7	Mar 5	Plants	Ch. 26, 28-31
	Mar 7	Plants	Ch. 26, 28-31
8	Mar 12	Fungi	Ch. 26.2
	Mar 14	Catch up/Review	Ch. 26, 28-31
9	Mar 19	Spring Break!	
	Mar 21		
10	Mar 26	MIDTERM #2	Ch. 26, 28-31
	Mar 28	Invertebrates	Ch. 27, 32-39
11	Apr 2	Invertebrates	Ch. 27, 32-39
	Apr 4	Inverts, Chordate diversity	Ch. 27, 32-39
12	Apr 9	Chordate diversity	Ch. 27, 32-39
	Apr 11	Chordate diversity, Human Evolution	Ch. 27, 32-39
13	Apr 16	Catch up/Review	Ch. 27, 32-39
	Apr 18	MIDTERM #3	Ch. 27, 32-39
14	Apr 23	Population Ecology	Ch. 40
	Apr 25	Population Ecology	Ch. 40
15	Apr 30	Community Ecology	Ch. 41
	May 2	Chemical Cycling, Biodiversity	Ch. 42.1-42.5, 43
16	May 7	Human Impacts	Ch. 43
	May 9	Human Impacts	Ch. 43
17	May 14	Catch up/Review	Ch. 40-43
Tues, May 21		FINAL EXAM 11:15 am – 1:15 pm	35% old, 65% new