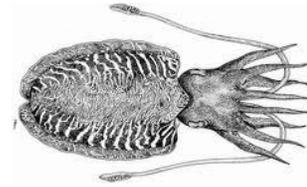


**BIOL 1150-004 "General Biology 2"
CSU Stanislaus
Course Syllabus**



Instructor: Dr. Michael Fleming **Office:** 269 Naraghi Hall **Phone:** (209) 664-6923 **Email:** mfleming1@csustan.edu
Office Hours: Mon 9-10am, Fri 1:30-2:30, or by appointment. **Class website:** Blackboard (<http://www.csustan.edu/blackboard>)

Class Sessions: MWF 8-8:50am, Naraghi 104

Pre-requisite: Pass BIOL 1050 with a C- or better. Students who do not meet this pre-requisite will be dropped from the course. If you are a transfer student from a local community college you should take the entire general biology sequence either here or at your CC and transfer both classes here. If you want to split the sequence between CC and us, it probably won't work (complicated articulation rules that the University has set).

Course Description: This course is the second in the two-course majors' intro biology series and emphasizes evolution, organismal biology including diversity of life, and ecology. 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. Course learning objectives are met through a combination of lecture and lab experiences. **A grade of C- or better is required to move forward into upper division biology.**

This is a survey course and we will cover much material quickly. I will ask you to think at high cognitive levels and how to apply what you learn in this class to choices you make in your life. **This course is fast paced, language intensive, and utilizes math! It is critical that you spend considerable time outside of class actively studying to be successful in the course.**

Lab: 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 (both taught by me):

Section	Day and Time
BIOL 1150-005	Mon., 2:00 – 4:50pm
BIOL 1150-006	Wed., 2:00 – 4:50pm

All lab sections meet in Naraghi 206. Note that while lab sections will have a separate syllabus, I will post all lab materials to the LECTURE Blackboard (Bb) website. There is no lab manual to purchase from the campus bookstore. I will post lab handouts to the class Bb site which you must download and print prior to lab each week. 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.

I am a firm believer in reinforcing concepts from lecture with activities in lab that illustrate these concepts. Students in science lecture courses do better if they take the relevant lab in the same semester. Since lab topics are fixed due to materials and specimens required for each lab meeting, I will endeavor to reinforce, assess, and keep pace with concepts and skills you learn in lab. This means the lecture schedule is a bit fluid and I may "call audibles at the line" to better align with lab.

Text: Campbell Biology in Focus, 2nd or 3rd edition by Urry et al. This is the same text since you used in BIOL 1050. If you have to buy a copy, the CSU Stan bookstore has loose-leaf versions (\$24 - \$146). You can also find the text easily online. You should bring the relevant sections of the text to class to follow along. Students who don't use the textbook generally earn lower grades than those who do. One cool feature of the text is that each chapter has a QR code you can scan with your smartphone. This will take you to a helpful study website.

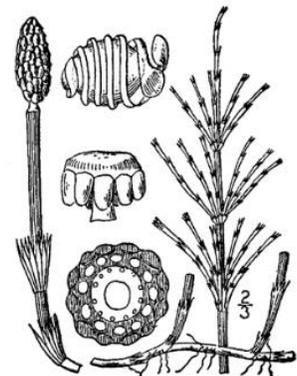
Announcements: Check Blackboard (Bb) often for updates, lecture slides, study guides, etc.

Course Goals: 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.*

My Teaching Philosophy: My teaching philosophy is grounded in high expectations, accountability, and belief in appropriate behavior conducive to learning. Five principles guide my teaching philosophy:

1. *All students can become lifelong learners.*
2. *Significant change requires significant commitment and time.*
3. *Struggle is a necessary and important part of life.*
4. *Students must accept responsibility for their learning progress.*
5. *I will never do for students what students can do for themselves.*



That said, I will work hard to appeal to multiple learning preferences and help you succeed in this course. Hopefully we'll also laugh sometimes as we go along.

Participation and Attendance: Please arrive to class on time and ready to learn. Students should attend every class session. Research shows that final grades are positively correlated with attendance and attention. To this end **you will be able to earn classroom activity points every class meeting, but cannot make them up if you are absent.** Thus, if you miss more than two class meetings, your final grade will be significantly negatively affected! Homework and in-class assignments are due before you leave class. You will talk and work frequently in small groups and sometimes present your ideas publicly. Finally, please do not disrupt the learning environment, rights, and property of others. All gadgets and technology not conducive to learning in the course should remain unused during class. Be honest, hold yourself accountable for your actions, and hold me accountable for mine.

Respectful Classroom Atmosphere: This class is a "judgment-free zone" at all times. If you disagree with somebody's opinion on a subject you do not have the right to sling insults, raise your voice, or criticize them. I most certainly encourage respectful disagreement on controversial topics, and conversations are livelier if people disagree on a subject. However, polite civil disagreement and outright hostility are two very different things. I will not tolerate hostility in the classroom in any form and anyone participating in this behavior will be escorted out of the room and not allowed to return for the rest of the class period.

Evolution: "Respect for data, comfort in faith." Someone much wiser than myself told me this a long time ago. If you can live by these wise words then you'll be fine in this class. Evolution and natural selection are central tenets of biology and will be critical aspects of this course, openly discussed and referred to frequently.

Math: Every biologist uses math, including algebra, statistics and/or calculus. In this class you will use math as it applies to biology. This mostly includes making and interpreting graphs, but will also include basic statistics (and calculus?) as needed to better understand biology. I will help you and there will be chances to practice in class.

iClickers: You will need to purchase/rent/reuse an iClicker, available at the CSU Stan bookstore (\$30 - \$47). Register it at www1.iclicker.com/register-clicker/. Expect to use it most days in class.

Assignments: You will submit three summaries of course content, each spanning a unit of course material. See the document “Summary Rubric” on BlackBoard for tips on how to maximize points on summaries. I will get graded summaries back to you by the next class meeting so you can use them to study. Other assignments will come in the form of preview/review questions (x3), in-class concept reviews & discussion, and clicker questions. If you are absent from class you cannot make up clicker or concept review points (but I will excuse them if your absence is legitimate).

Preview/Review Questions: The Preview/Review questions for each chapter help you to prepare for each class session and later test your knowledge of terms, concepts, and mastery of the material. Please use these questions to prepare for class each day; after we complete each chapter, use the questions to test yourself. P/R Qs are also homework for the course. You will submit typed answers to the questions through a Google form. The link will be available in Blackboard and via email. I recommend typing answers to the questions as we complete each class session. My hope is that working your way through the Preview/Review questions will allow you to earn points while interacting with the material to master the topics we will cover this semester.

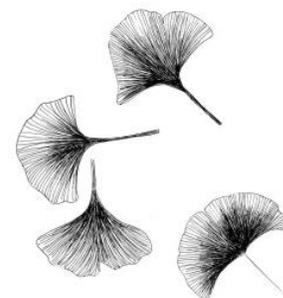
Exams: There are two midterms and one final exam. Exams will consist of multiple choice and short answer questions. You will need a scantron form for all exams. Requests for early exams must be submitted in writing prior to the scheduled exam with evidence of your hardship. If you miss an exam and have to make it up, you will also need to provide some evidence of hardship. **No makeup exams will be given after graded exams are returned to the class.**

Cheating and Plagiarism: Please don’t do it! Your work should reflect your own effort and words. Verified instances of cheating and/or plagiarism will be unpleasant for all involved. At minimum, such action will result in the offending student(s) receiving an automatic F in the course and being referred to the Dean of Students for further disciplinary action.

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 (Library Annex, Building #210). If DRS notifies me that you require ADA accommodations you will receive them. Examples of ADA accommodations include extra time for exams, permission to record lectures, and note-taking assistance. If you wish to record my class in any form (video, audio, still pictures, etc.) without accommodation from DRS, please ask. Otherwise that constitutes intellectual property theft and will be dealt with accordingly. NOTE: Student athletes who will miss class for games/matches should have their coach contact me, and I will accommodate your schedule by allowing alternate test dates and/or excusing points missed in class.

Grades: There are 1000 points possible in this course:

Activity/Assignment	Points Possible	% of Total Points
Midterm Exams	200	20%
Final Exam	200	20%
Summaries (x3)	100	10%
Concept Reviews (x15)	75	7.5%
Prev/Rev Qs (x3)	100	10%
Clicker Questions	75	7.5%
Lab section	250	25%
TOTAL	1000	100%



I calculate grades as a function of grade point average (GPA) where A=4.0 and D=1.0 (I will show you an example in class). Students find this method fair and equitable. **I give + and – grades** as follows:

4.0-3.8 = A	3.7-3.6 = A-	3.5-3.3 = B+	3.2-3.0 = B	2.9-2.6 = B-	2.5-2.3 = C+
2.2-2.0 = C	1.9-1.6 = C-	1.5-1.3 = D+	1.2-1.0 = D	0.9-below = F	
		CR = 1.6 or higher		NC = 1.5 or lower	

Important Dates: The last day to add the class is Sept. 5th; the last day to drop is Sept. 19th. This is also the last day to change your grading option; it is your responsibility to do so by 5pm that day. I strictly adhere to the grading option Academic Records has on file for you when I submit final grades. **Unless it is to replace an incomplete or to correct a mistake in my grading, I will not change grades once final grades have been submitted.**

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 date of the exam. 7) **Go to**

bed early the night before an exam, and be well-fed and hydrated before exam time. 8) **Learn how you learn** and then stick with a preference or process that is successful for you.

Deep learning takes time and is impossible to do the night before an exam. ***Form a study group that meets regularly*** so you can talk about concepts and review terminology. When studying for exams, focus primarily on lecture notes, P/R questions, and the assigned text readings.

There is help on campus for students struggling with biology!

1. The **Commons**, located in 124 Naraghi Hall, is a free walk-in science and math tutoring center.
2. The **Louis Stokes Alliance for Minority Participation (LSAMP)** in the sciences offers support in science and math for students who face or have faced social, educational or economic barriers to pursuing careers in science and math fields. Visit their website or office (Naraghi 375 or DBH 278) for more information.
3. **Tutoring Services** on the ground floor of the CSU Stan Library (Library Annex, Building #210) has drop-in tutoring for biology; check their office or website for their schedule.
4. The **Academic Success Center** (MSR 210).
5. **Student Support Services** (MSR 245).

Of course, I will work hard to help you in class and out. Come to office hours, communicate with me and let me know your frustrations and I will respond.

Tentative Lecture Schedule:

WEEK	DATE	TOPIC(S)	Read/Due:	Lab This Week
1	Aug. 23	Class intro		
	Aug. 26	Broad patterns of evolution – <i>what is “deep time”?</i>	Ch. 23	Deep time, classification
2	Aug. 28	Origin of species– <i>where do species come from?</i>	Ch. 22	
	Aug. 30	Phylogeny – <i>what can this branching diagram tell us about how organisms are related?</i>	Ch. 20	
3	Sep. 2	No class - Labor Day		Phylogenies
	Sep. 4	Phylogeny – <i>what can this branching diagram tell us about how organisms are related?</i>	Ch. 20	
	Sep. 6	Evidence for evolution, phylogeny – <i>how do we know what we know about evolution?</i>	Ch. 19	
4	Sep. 9	Evidence for evolution, phylogeny – <i>how do we know what we know about evolution?</i>	Ch. 19	Microbes, Microscopes, Bacteria
	Sep. 11	Biogenesis – <i>how did the first living cell arise?</i>	Ch. 24.1	
	Sep. 13	Prokaryotes (bacteria and archaea) – <i>will bacteria outlast humans?</i>	Ch. 24.2-24.5	
5	Sep. 16	Protists – <i>these are eukaryotes?</i>	Ch. 25 Due: Summary #1 and P/R Qs #1	More Microbes, Protists
	Sep. 18	Protists – <i>these are eukaryotes?</i>	Ch. 25	
	Sep. 20	Flex day, review		
6	Sep. 23	Midterm #1	Be prepared!	Bryophytes, Ferns and Fern Allies
	Sep. 25	Plants 1 (mosses, ferns) – <i>ugh plants, who cares?</i>	Ch. 26, bits from Chs. 28-31	
	Sep. 27	Plants 1 (mosses, ferns) – <i>ugh plants, who cares?</i>	Ch. 26, bits from Chs. 28-31	
7	Sep. 30	Plants 2 (gymnosperms, angiosperms) – <i>we’re still talking about plants? Why?</i>	Ch. 26, bits from Chs. 28-31	Conifers, Flowering Plants, Supermarket Botany
	Oct. 2	Plants 2 (gymnosperms, angiosperms) – <i>we’re still talking about plants? Why?</i>	Ch. 26, bits from Chs. 28-31	
	Oct. 4	Plants 2 (gymnosperms, angiosperms) – <i>we’re still talking about plants? Why?</i>	Ch. 26, bits from Chs. 28-31	

8	Oct. 7	Bioskills #1 – the significance concept, t-test, ANOVA		Open Lab, Review
	Oct. 9	Bioskills #2 – correlation and regression		
	Oct. 11	Flex Day, review		
9	Oct. 14	Fungi	Ch. 26.2	Lab Exam 1, Fungi
	Oct. 16	Fungi	Ch. 26.2	
	Oct. 18	Inverts 1 – <i>got worms?</i>	Ch. 27, bits from Chs. 32-39	
10	Oct. 21	Inverts 1 – <i>got worms?</i>	Ch. 27, bits from Chs. 32-39	Animal Tissues, Porifera, Cnidarians, Platyhelminthes
	Oct. 23	Inverts 2 – <i>what are the things that creepeth and slithereth and swimmeth?</i>	Ch. 27, bits from Chs. 32-39	
	Oct. 25	Inverts 2 – <i>what are the things that creepeth and slithereth and swimmeth?</i>	Ch. 27, bits from Chs. 32-39	
11	Oct. 28	Chordate diversity – <i>we're related to those?</i>	Ch. 27, bits from Chs. 32-39	Annelids, Molluscs, Nematodes, Arthropods
	Oct. 30	The Biological Basis of Monsters		
	Nov. 1	Chordate diversity – <i>we're related to those?</i>	Ch. 27, bits from Chs. 32-39	
12	Nov. 4	Human evolution – <i>so, we're not descended from monkeys?</i>	Ch. 27, bits from Chs. 32-39 Due: Summary #2 and P/R Qs #2	Echinoderms, Chordates
	Nov. 6	Flex Day, review		
	Nov. 8	Midterm #2	Be prepared!	
13	Nov. 11	No class - Veteran's Day		*Frog Dissection, Animal Adaptations
	Nov. 13	Population ecology, – <i>is that population growing? In decline? Why does it matter?</i>	Ch. 40	
	Nov. 15	Population ecology, – <i>is that population growing? In decline? Why does it matter?</i>	Ch. 40	
14	Nov. 18	Community Ecology – <i>who wins and who loses?</i>	Ch. 41	Insect Project Presentations, Open Lab, Review
	Nov. 20	Community Ecology – <i>who wins and who loses?</i>	Ch. 41	
	Nov. 22	Chemical cycling – <i>why are food chains so short?</i>	Ch. 42-1-42.4	
15	Nov. 25	Chemical cycling – <i>why are food chains so short?</i>	Ch. 42-1-42.4	*No Lab
	Nov. 27	Human impacts – <i>what have we done?</i>	Ch. 43	
	Nov. 29	No class - Thanksgiving break		
16	Dec. 2	Human impacts – <i>what have we done?</i>	Ch. 43	Lab Exam 2
	Dec. 4	Human impacts – <i>what have we done?</i>	Ch. 43	
	Dec. 6	Helping the Earth – <i>what can we do?</i>	Ch. 42.5, 43 Due: Summary #3 and P/R Qs #3	
17	Dec. 9	Helping the Earth – <i>what can we do?</i>	Ch. 42.5, 43	
	Dec. 11	No class - Reading Day		
	Dec. 13	FINAL EXAM → 8:30 – 10:30am, Naraghi 104	Be prepared!	
18				