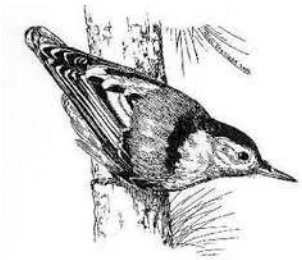


Course Syllabus
BIOL 1010-002 "Principles of Biology"
CSU Stanislaus

Instructor: Dr. Michael Fleming **Office:** 269 Naraghi Hall
Phone: (209) 664-6923 **Email:** mfleming1@csustan.edu
Office Hours: Mon 9:30 – 10:30, Tu & Wed 2:30 – 3:30, or by appointment.
Class Sessions: Tuesdays & Thursdays 12:30 – 1:45, 167 Demergasso-Bava Hall (a.k.a P 167)

Course Description: This course satisfies the B2 (life science) lower division general education requirement. This is a survey course; we will explore many basic biological concepts as they relate to living organisms under the broad categories of (1) molecules and cells, (2) genetics, (3) evolution and (4) ecology. We do not cover physiology in this course; this would be more appropriate for pre-med or pre-health students. We do not go as deep into biology as the biology majors do, but we will cover a lot of material! Classes meet face-to-face twice a week, and you will access an online platform called InQuizitive frequently to reinforce concepts covered in class. 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. **This course is fast paced and language intensive**. If you are currently in or still need to take ENGL 1000, ENGL 1001 or ENGL 1006 please consider taking BIOL 1010 another time.

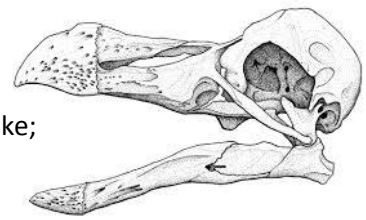
Lab: There is no laboratory requirement for this course, but I highly recommend that you take BIOL 1020 this semester if possible! I am a firm believer in reinforcing concepts learned in lecture with activities in lab that illustrate these concepts. Data support the hypothesis that students in BIOL 1010 do better if they take BIOL 1020 in the same semester.

Text: You have several options for purchasing the required textbook, *Biology Now, Core Edition* by Houtman et al. You can buy the loose leaf version in the CSU Stan bookstore (includes registration code, access to the InQuizitive homework system + interactive e-book for $88 retail). You could choose to go all digital and buy the interactive e-book + IQ online homework for $57 retail. You can also purchase a used book, in which case you'll only need to buy the InQuizitive homework system for $20 retail.

Announcements: Check BlackBoard often for updates, lecture slides, study guides, etc.

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

1. *Develop the skills and competencies necessary to effectively participate in our society and the world* (this includes demonstrating effective oral and written communication, thinking logically, creatively and critically, applying quantitative reason and skills to solve problems, and using technology effectively to gather and communicate information).
2. *Develop an understanding of the contribution to human knowledge and culture of the biological sciences* (this includes applying the scientific method, demonstrating understanding of living and non-living aspects of the world you live in, of human cultural and scientific endeavors, and the structures and institutions that frame human interactions).



More specific to this class, after completing it 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.

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 and use multiple teaching methods to help you succeed in this course. Hopefully we'll also have a few laughs as we go along.

Participation and Attendance: Please arrive to class on time and ready to learn. I expect all students to attend every class session. There is plenty of research that shows final grades are positively correlated with attendance. 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**. Thus, if you miss more than two class meetings, your final grade will be negatively affected! Assignments are due at the start of class (or on your way out if we did it in 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. All gadgets not conducive to learning such as cell phones, music devices, etc. should be turned off 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. This means that when 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 disagreement on controversial topics and conversations are livelier if people do disagree on a subject. However, polite civil disagreement and outright hostility are two very different things. I will not tolerate hostility in the classroom, 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 me told me this a long time ago, and it stayed with me. If you can live by it 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 and statistics. In this course you will use some math as it applies to biology. This mostly includes making and interpreting graphs, but *may* also include calculating averages and variation around an average. I will help you and there will be chances to practice.

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

Assignments: You will submit four summaries of course content spanning several weeks of course material. See the document "Summary Rubric" on BlackBoard for tips on how to maximize points on summaries. I will endeavor to get graded summaries back to you by the next class meeting so you can use them to study for exams. Other assignments will come in the form of InQuizitive, in-class concept reviews & discussion, and clicker questions. If you are absent from class you cannot make up the clicker or concept review points.

InQuizitive (IQ): If you buy the textbook new from the CSU Stan bookstore, it comes with access to the online homework platform called InQuizitive. Regardless of how you obtain your textbook, you must access IQ through our class Blackboard website or else your IQ grades will not be recorded in my gradebook. Be sure to create an IQ account as you will access it regularly throughout the semester. We will have a representative from the publisher in class to help you with IQ. I will track your access and use of IQ, and points earned on the IQ website will figure into your final grade.

Exams: There are three midterms and one final exam. Midterm exams cover a single unit; the final is comprehensive (~35% old material, ~65% new material since midterm #3). Exams will consist mainly of multiple choice and possibly some 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: Don't do it! Your work should reflect your own effort and words. Any verified instance of cheating and/or plagiarism will be unpleasant for all involved. At minimum, verified instances of cheating or plagiarism will result in the offending student 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 (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. If you record my class in any form (video, audio, still pictures, etc.) without accommodation from DRS that constitutes intellectual property theft and will be unpleasant for all involved. 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 700 points possible in this course:

Activity/Assignment	Points	% of Total Points
Midterm Exams (x3)	300	43%
Final Exam	150	21%
Summaries (x4)	60	9%
Concept Reviews (x10)	50	7%
InQuizitive	100	14%
Clicker Questions	40	6%
TOTAL	**700**	**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 Feb. 10th; Census Date is Feb. 24th. This is the last day to drop the course or change your grading option without my signature; it is your responsibility to submit the grade change form to Admissions and Records by 5pm that day. Apr. 14th is the last day to

change your grading option with my signature. 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 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 day of the exam. 7) **Go to bed early** the night before and get up early the day of exams. 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 in a single session before an exam. ***Form a study group that meets regularly*** so you can talk about new concepts and review terminology. When studying for exams, focus primarily on lecture notes, InQuizitive, and the assigned text readings.

There is help on campus for students struggling with biology!
1. There is **supplemental instruction (SI)** for this course. **Katie Alosi** (kalosi@csustan.edu) and **Ashley Davis** (adavis11@csustan.edu) are the SI leaders for this course. They both know how BIOL 1010 works because they were once students in the class. They are pursuing careers in teaching and are excellent facilitators of learning. I trust them unreservedly and know you will be capable hands with them.
2. 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.
3. The **Biology Student Association** 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.
4. **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.
5. The **Advising Resource Center** (MSR 180).
6. **Student Support Services** (MSR 230).
7. **Program for Academic and Career Excellence (P.A.C.E.)** in 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:*
1			
	Jan. 28	Intros, how to succeed in this course (hang tough!)	Have textbook & clicker
2	Feb. 2	Nature of science (to vaccinate or not to vaccinate?)	Chapter 1 & 19
	Feb. 4	Defining life, chemical building blocks, water (evidence from space)	Chapter 2
3	Feb. 9	Cells, membranes and transport (wonder drug)	Chapter 3
	Feb. 11	Metabolism and nutrition (We're #2!)	pg. 30-33 & Chapter 4
4	Feb. 16	Energy concept (power foods)	pg. 30-33 & Chapter 4
	Feb. 18	Energy flow and photosynthesis (mighty microbes)	Chapter 4 **Summary #1 due**

5	Feb. 23	Energy and respiration (Supersize Me)	Chapter 4
	Feb. 25	**MIDTERM #1 (Nature of science, chemistry, cells)**	
6	Mar. 1	DNA structure & function (DNA will set you free)	Chapter 8
	Mar. 3	Cell division & mitosis (paramedic plants)	Chapter 5 (pg. 74-78)
7	Mar. 8	Genetic mutations & cancer (fighting fate)	Chapter 8, Chapter 5, cancer: pg. 77
	Mar. 10	Meiosis & single gene inheritance (Hellen)	pg. 80-87 & Chapter 6
8	Mar. 15	Complex inheritance (sex and depression)	pg. 100-105 & Chapter 7
	Mar. 17	Genes to proteins (transgenic organisms)	Chapter 9 **Summary #2 due**
9	Mar. 22	Stem cells & cell differentiation (grow your own)	pg. 121-123 & Chapter 9
	Mar. 24	**MIDTERM #2 (genetics, biotechnology)**	
10	*Mar. 29*	*Spring Break!*	*Have fun* ☺
	Mar. 31	*Spring Break!*	*Have fun* ☺
11	Apr. 5	Darwin's big idea & evidence for evolution (fish with fingers)	Chapter 10
	Apr. 7	How populations evolve (bugs that resist bugs)	pg. 162-165 & Chapter 11
12	Apr. 12	Darwin meets genetics, species (evolution in the fast lane)	Chapter 12
	Apr. 14	Evolution of biological diversity (the first bird)	pg. 240-241 & Chapter 13
13	Apr. 19	Origin of life, chemical evolution (the biogenesis paradox)	Ch. 3 (pgs. 38-42, 50) **Summary #3 due**
	Apr. 21	Human evolution (redefining race)	Chapter 14
14	Apr. 26	**MIDTERM #3 (evolution)**	
	Apr. 28	Animal behavior (the beast in you)	*Special topic not in text*
15	May 3	Population Biology (on the tracks of moose and wolves)	pg. 260-261 & Chapter 16
	May 5	Community ecology (what's happening to the honeybees?)	Chapters 17 & 18
16	May 10	Human impacts (Amazon on fire)	Chapter 15
	May 12	Human impacts (Amazon on fire)	Chapter 15 **Summary #4 due**
17	May 17	Good news for a change (army of one)	*Special topic not in text*
	May 19	*No class, first day of final exams*	*Study well*
18	May 24	**FINAL EXAM 11:15am – 1:15pm (mostly ecology, some prior stuff)**