

**BIOL 1010-003 “Principles of Biology”
CSU Stanislaus
Course Syllabus**



Instructor: Dr. Sara Emerson

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Office Hours: Mon 1-2 pm, Tue 12-1 pm, Wed 10-11 am, or by appointment.

Lectures: Mondays, Wednesdays & Fridays 8 am – 8:50 am, Room: DBH 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 3x a week, and you will access an online platform (through Blackboard) 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!

Text: *Biology Now, Core Edition* by Houtman et al. The one you get at CSU Stan bookstore is a loose-leaf version that comes with the e-book and InQuizitive included. You can also go all digital and buy the e-book + InQuizitive for \$57. Or, you can look for a used copy of the textbook and buy InQuizitive alone for \$20. No matter which way you do it, you will need some version of the text and InQuizitive (this is the required online homework program for our course). Getting the e-book and InQuizitive can only happen 1 way: through Blackboard! Go to BB, log in and go to our course, click on the **Course Materials** tab to the left, click INQUIZITIVE online homework (at the top of the list of materials). This takes you to something called an LTE...a link between BB and InQuizitive. From there, you can explore “purchase options”, and later this is where you will do homework. By linking this way from BB to IQ, your homework scores will automatically show up with your other scores on BB.

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

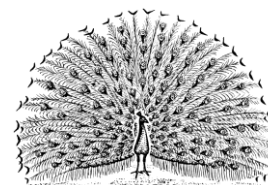
Course Goals: As this is a General Education course, the overarching goals of the course are to:

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 & non-biologists alike.
3. Apply biological knowledge to make informed decisions in your life.



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.

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, and I reserve the right to deduct points from a student's participation grade if disrespectful behavior is observed.

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: 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 website InQuizitive. Access IQ through our class Blackboard website using the student code that comes with your text. If you get a used book from another source, you will have to purchase access to IQ through the book publisher's website. Either way, you must 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 log in to IQ and create an account. 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. You will need to *bring your own* Scantron forms 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. 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. Believe me, it's a lot easier than you think for me to see you glancing at your phone. **No makeup exams will be given after graded exams are returned to the class.**

Cheating and Plagiarism: Dude, it's really not worth 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. 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 (plus 40 extra credit):


Activity/Assignment	Points	% of Total Points	Grading Scale
Midterm Exams (x3)	300	43%	A = 90 – 100%
Final Exam	150	21%	B = 80 – 90%
Concept Reviews (x14)	70	10%	C = 70 – 80%
InQuizitive	100	14%	D = 60 – 70%
Clicker Questions	80	11%	F = 60% or below
TOTAL	700	100%	
* Extra Credit Summaries (x4)	40 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) **Go to bed early** the night before and get up early the day of exams. 8) Studies show that **the brain solves problems while you dream**. If you study one day and then review the material again on another day, you will have given your brain a chance to process and understand information that may have been confusing at first. When you go back to it the next day or so, you have a better chance of understanding and remembering it. So, make sure you start studying earlier than the day before the exam, so you have time to review and make sense of information after “sleeping on it.” 9) **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. 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. 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
- Of course, I will work hard to help you in class and out. Come to office hours, send me an email, etc. It's my job to help you!

Tentative Lecture Schedule:

WEEK	DATE	TOPIC(S)	Read:
1	Jan. 29	Intros, syllabus	Syllabus, sign on to IQ
2	Feb. 1	Nature of science	Chapter 1
	Feb. 3	Nature of science (vaccine case study)	Chapters 1 & 19
	Feb. 5	Nature of science (vaccine case study)	Chapter 19
3	Feb. 8	Defining life	Chapter 2
	Feb. 10	Defining life, Cellular basis of life	Chapters 2, 3
	Feb. 12	Cellular basis of life	Chapter 3
4	Feb. 15	Metabolism and nutrition	Chapter 4
	Feb. 17	Energy and enzymes	Chapter 4
	Feb. 19	Review	Chapters 1-4, 19
5	Feb. 22	MIDTERM #1	
	Feb. 24	Cell division & mitosis	Chapter 5
	Feb. 26	Cell division & mitosis	Chapter 5
6	Feb. 29	Single gene inheritance & meiosis	Chapter 6
	Mar. 2	Simple inheritance, Complex inheritance	Chapters 6, 7
	Mar. 4	Complex inheritance	Chapter 7
7	Mar. 7	DNA structure & function	Chapter 8
	Mar. 9	DNA structure & function, Genetic mutations & cancer	Chapters 8, 5
	Mar. 11	Genetic mutations & cancer	Chapters 8, 5
8	Mar. 14	Genes to proteins	Chapter 9
	Mar. 16	Stem cells & cell differentiation	Chapter 9
	Mar. 18	Review	Chapters 5-9
9	Mar. 21	MIDTERM #2	
	Mar. 23	Darwin's big idea & evidence for evolution	Chapter 10
	Mar. 25	Evolution	Chapter 10
10	Mar. 28- Apr. 1	Spring Break!	
11	Apr. 4	How populations evolve	Chapter 11
	Apr. 6	Evolution & adaptation	Chapters 11, 12
	Apr. 8	Darwin meets genetics, species	Chapter 12

12	Apr. 11	Evolution of biological diversity	Chapter 13
	Apr. 13	Origin of life, chemical evolution	Ch. 3 (pgs. 38-42, 50)
	Apr. 15	Human evolution	Chapter 14
13	Apr. 18	Human evolution	Chapter 14
	Apr. 20	Review	Chapters 10-14
	Apr. 22	MIDTERM #3	
14	Apr. 25	Human impacts	Chapter 15
	Apr. 27	Human impacts, behavior introduction	Chapter 15
	Apr. 29	Animal behavior	<i>Special topic not in text</i>
15	May 2	Population Biology	Chapter 16
	May 4	Population Biology , Community ecology	Chapters 16, 17
	May 6	Community ecology	Chapter 17
16	May 9	Ecosystems	Chapter 18
	May 11	Ecosystems	Chapter 18
	May 13	Review	Chapters 15-18
17	May 20	FINAL EXAM 8:30-10:30 am	
			Cumulative; Chs. 15-18 + behavior emphasized

