

## BIOL 1010 "Principles of Biology" CSU Stanislaus Course Syllabus



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**Office Hours:** Wed 12-2 pm, Tues 10-11 am, or by appointment.

**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, 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 BIOL 1020 is highly compatible with this course.

**Text:** *Biology Now, 2nd 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. Or, you can look for a used copy of the textbook and buy InQuizitive alone for the cheapest price. 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).

**Course Goals:** As this is a B2 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).

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

*Apply quantitative reasoning concepts and skills to solve problems.* Methods of calculating mitotic cell divisions, genetic combinations of alleles, population growth rates, and species diversity will be assessed through assignments and exams.

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).

Outcomes 2.1 and 2.2 of this goal will be assessed in the course:

*2.1 Explain and apply basic scientific methods*

Students' understanding of the methods of gathering data on the history of the Earth, medical research, genetics, evolution, biological populations, conservation and ecology will be assessed through assignments and exams.

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

Students' understanding of the biotic and abiotic world will be assessed through assignments and exams at the levels of atoms, cells, organisms, populations, communities, and the biosphere. Concepts include how cells work, including metabolism, photosynthesis, and genetics. On a larger scale, we examine evolution of populations, community interactions, ecosystems, and the interactions between living things and global variables, such as meteor showers, acid rain, and climate change.

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.** Final grades are positively correlated with attendance, especially in this course. **You will be able to earn *classroom activity* points, but you cannot make them up if you are absent.** 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 or anywhere that you can find one. All versions of iClicker will work, but it must be the iclicker brand. Expect to click most days in class. Make sure you have fresh batteries in your remote.

**Assignments:** Assignments will come in the form of InQuizitive, in-class questions, and clicker questions. **If you are absent from class, you cannot make up the in-class points: One of many reasons to attend class regularly!**

**InQuizitive (IQ):** If you buy the textbook new from the CSU Stan bookstore, it comes with access to the InQuizitive website. 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. I will track your access and use of IQ, and points earned on the IQ website will figure into your final grade. Please note: **YOU MUST ALWAYS ACCESS IQ THROUGH THE LINK IN BLACKBOARD, OTHERWISE YOUR HOMEWORK SCORES WILL NOT TRANSMIT TO ME!**

**Exams:** There are three midterms and one final exam. Final is the same length as the midterms, and it covers only new material since midterm #3. Exams will consist mainly of multiple choice. 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 must 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. **NOTE: Student athletes** who will miss class for games/matches should contact me directly for each missed class. Otherwise, your absences will not be recorded as excused.

**Grades:** There are 800 points possible in this course (plus 20 extra credit):

Activity/Assignment	Points	Grading Scale
Midterm Exams (x3)	300	A = 90 – 100%
Final Exam	100	B = 80 – 89%
Concept Reviews (x14)	110	C = 70 – 79%
InQuizitive (x19) (Skip ch. 15 & 21)	190	D = 60 – 69%
Clicker Questions	100	F = 59% or below
<b>TOTAL</b>	<b>800</b>	

\* 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. 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!

**Other resources:**

Student Affairs: <https://www.csustan.edu/student-affairs> (For help with the various challenges of college life!)

Title 9 info: <https://www.csustan.edu/compliance/title-ix> (Preventing & reporting abuse; rights of pregnant students)

Disability Resource Services: <https://www.csustan.edu/disability-resource-services>

Dreamers: <https://www.csustan.edu/dreamers> (DACA updates and info on scholarships for application renewal)

**Tentative Lecture Schedule (note, we are skipping chapters 15 and 21):**

<b>DATE</b>	<b>TOPIC(S)</b>	<b>Read:</b>
Jan 28	Intro, syllabus, the nature of science	Ch. 1
Jan 30	Nature of science; Interpreting science	Ch. 1, 2
Feb 4	Defining life	Ch. 2,3
Feb 6	Cellular basis of life	Ch.4
Feb 11	How cells work	Ch. 5
Feb 13	How cells work	Ch. 5
Feb 18	Cells; Catch up/Review	Chapters 1-5
Feb 20	<b>MIDTERM #1</b>	Chapters 1-5
Feb 25	Cell division & mitosis	Ch. 6
Feb 27	Cell division & meiosis	Ch. 6, 7
Mar 3	Single gene inheritance	Ch. 7
Mar 5	Complex inheritance	Ch. 8
Mar 10	DNA structure	Ch. 9
Mar 12	DNA function	Ch. 10
Mar 17	Catch up/ Review	Chapters 6-10
Mar 19	<b>MIDTERM #2</b>	Chapters 6-10
Mar 23-27	<b>SPRING BREAK, NO CLASSES</b>	
Mar 31	<b>CESAR CHAVEZ DAY, NO CLASSES</b>	
Apr 7	Darwin's big idea & evidence for evolution	Ch. 11
Apr 9	How populations evolve	Ch. 12
Apr 14	Darwin meets genetics, species	Ch. 13
Apr 16	Evolution of biological diversity	Ch. 14
Apr 21	Evolution of biological diversity	Ch. 16 (skip Ch. 15)
Apr 23	Human evolution	Ch. 17
Apr 28	Catch up/Review	Chapters 11-14, 16-17
Apr 30	<b>MIDTERM #3</b>	Chapters 11-14, 16-17

May 5	Ecology/Climate Change	Chapter 18
May 7	Ecology/Climate Change	Chapter 18
May 12	Population Biology	Ch. 19
May 14	Community ecology	Ch. 20
<b>FINAL EXAM: Tues, May 19, 8:30-10:30 am, DBH 167, Chapters 18-20</b>		

