

Mt. San Antonio College, Biology 1: General Biology
Tentative Course Syllabus (details may change), Spring 2014

WELCOME TO BIOLOGY! When you have questions, please do not hesitate to ask. I would like everyone to be a successful biologist this term. We will cover a wealth of material, and time is scarce. Your active participation in learning both in and out of class is essential!

Instructor: Chris Briggs, christopher.briggs@mtsac.edu, 909-274-5808 (If I am contacted after Thursday afternoon, I may not reply until Monday morning.)

Born: Riverside, California – near Box Springs Mountains

College: UC Berkeley, B. S. Environmental Sciences, rowing team, *a cappella*, lived in housing co-op

Graduate School: UC Riverside, M. S. Entomology, juggling club, Chamber Singers

Other Jobs: Lab Assistant, Environmental Educator, Substitute Teacher, Tree Planter, Preserve Manager

Student Hours: MW 11 – 12, TuTh 3:30 – 4:30 pm, or others by appointment (office in bldg. 60 – room 2110, or I will be nearby). These are times I set aside to meet with you. They are typically underutilized, so take advantage!

Lecture: MW 1:15 – 2:40 pm (meets in 61-2320)

Lab: M (course #41784) or W (41792) 3:30 – 6:40 pm (meets in 7-1111)

Website: <http://faculty.mtsac.edu/cbriggs> and MoodleRooms

Week	Date	Lecture Topics	Reading	Lab
1	Feb 24	Introduction to Biological Concepts	Ch. 1	1: Mt. SAC CSI
	Feb 26	Basic Chemistry; Quiz 1	2	
2	Mar 03	Molecules of Life	3	2: You Are What You Eat!
	Mar 05	Cell Structures; Quiz 2		
3	Mar 10	Cell Physiology	4	3: The Cell & Metric Syst.
	Mar 12	Cellular Respiration; Field Obs. #1 due	5, 6	
4	Mar 17	Photosynthesis; Quiz 3	7	4: How Things Move (HH)
	Mar 19	Plant Basics	8	
5	Mar 24	DNA / Protein Synthesis; Rev. Qs due (Ch. 1-8)	24, 25	5: Cell. Resp., Metab. Rates
	Mar 26	Exam 1 (Ch. 1-8)	13, 14	
6	Mar 31	Cesar Chavez Day Holiday - No Class	14, 15	6: Plants & Photosynth. (H)
	Apr 02	Gene Regulation / Biotechnology		
7	Apr 07	Mitosis / Cancer	9, 12, 10	7: Biodiv. & Taxonomy (H) <i>Dress for outdoors</i>
	Apr 09	Meiosis; Quiz 4	10, 11	
8	Apr 14	Genetics	11, 12	Lab Midterm (on labs 1-7); 8: DNA, Prot. Synth., Biotech.
	Apr 16	Genetic Counseling; Quiz 5	12	
9	Apr 21	Evolution; Field Obs. #2 due	16, 17, 1-17, 4	9: Genetics
	Apr 23	Evolution; Quiz 6	18.1-18.4	
10	Apr 28	Survey of Life; Rev. Qs due (Ch. 9-18)	20, [21-24]	10: Macroevolution
	Apr 30	Exam 2 (Ch. 9-18)		
11	May 05	Population Ecology	34	11: Microevolution
	May 07	Communities and Ecosystems; Article Critique due	35	
12	May 12	Human Impacts	36	12: Pop. Growth, Diseases
	May 14	Resp., Circ., & Homeostasis; Quiz 7		
13	May 19	Homeostasis & Endocrine Syst.	26, 31, 30	13: Human Resp. & Circ. (G)
	May 21	Immune Syst.; Quiz 8	28.1-28.5	
14	May 26	Memorial Day Holiday - No Class	29.1-29.4	14: Human Senses (G)
	May 28	Reproductive System; Field Obs. #3 due (optional)	33.1-33.4	
15	Jun 02	Catch-up; Quiz 9		Lab Final (on labs 8-14); Review for lecture final
	Jun 04	Review; Rev. Qs due (Ch. 20, 26, 28-31, 33-36)		
16	Jun 09	Comprehensive Lecture Final Exam (1:30-4pm)		12/09 and 12/11: Lab 4:30 – 7pm; 15: Ecology, <i>outdoors</i>

(H) This lab needs a hypothesis written before coming to class; HH means it has 2 hypotheses

(G) This lab has dissection; a few latex gloves will be provided.

Catalog Description: Major principles and concepts, including cellular biology, energy relationships, biological systems, heredity, evolution, and ecology for non-science majors. 4 units. Degree applicable, CSU, UC. Prerequisite: ENGL 67.

Objectives: Upon completion of this course, my goal is for all students to be able to:

1. classify the molecules of living systems and apply basic principles of chemistry to their interaction.
2. relate cell structure and physiology.
3. compare and contrast the processes of photosynthesis and cellular respiration in terms of energy transformation in cells.
4. evaluate how life forms duplicate, maintain control, and exhibit hereditary patterns.
5. summarize the various types of evidence used to examine evolutionary principles.
6. assess how population and community dynamics are affected by ecological interactions.
7. describe how the systems of the human body interact to maintain homeostasis.
8. explain why evolution is the most all-encompassing scientific explanation for the history of life and the similarities in biochemistry and physiological processes among living things.

Course student learning outcomes: <http://www.mtsac.edu/instruction/outcomes/sloinfo.html>

Materials:

1. Textbook: Krogh. 2011. Biology: A Guide to the Natural World. 5th edition. The 4th edition is similar, but has some slight differences, so it is only suitable if you are willing to check a 5th edition book periodically to see if you've missed anything. Available for rental at bookstore.
2. Lab Manual: Schmidt, Kakiba-Russell, Vail, Revell. 2011. Life All Around Us. 4th edition.
3. Pencil, eraser, colored pencils, ruler, calculator.

Assignments:

Review Questions: Before exams I will ask you to submit answers to several questions, related to recent material.

Scientific Article Critique: Almost as important as knowledge is the ability to communicate effectively. A paper is an opportunity to improve your ability to communicate in writing, as well as to explore beyond your textbook. I have placed several articles on our class webpage. These outside readings provide a different perspective from the textbook, and give details on topics that are of interest to biologists. I hope that you will use your critical thinking abilities and draw on your own experience.

For your paper, choose one of these articles, print a copy, and read it. Your assignment is to write an essay in three labeled sections: (1) Summarize the article, (2) discuss how the article relates to what you are learning, and (3) evaluate the scientific quality of the article. You may find that you need to read parts of the textbook before the assigned date to acquire the background you need.

The essay must be no longer than 3 pages, double-spaced, 1-inch margins, 12-point font. Do not quote material from the article or from the textbook. Instead, frame the ideas in your own words, and build your own story. The best way to plan your paper is to do all of your reading and note-taking until you understand the material. Then get the original material out of your sight and write your thoughts in your own way. If you get stuck, talk to me.

Field Observations: These will be discussed separately.

Assessments:

Lecture and Lab Quizzes: These are meant to motivate you to review recent material and prepare to discuss new ideas. Lecture quizzes may ask about the previous lecture or material you've read to prepare for that day's lecture. Lab quizzes will cover conclusions from previous week's lab and background for the upcoming lab. All quizzes begin at the start of the class session, and are due ten minutes later.

Lecture and Lab Exams: These assess your grasp of large sets of material. Review early and often. Lecture and lab exams are a combination of objective questions (matching, multiple-choice), short-answer questions, and diagrams to complete.

Lab Participation: To foster an atmosphere of persistence, I ask you to arrive on time, stay for the entire lab

Rubric for Papers on Journal Articles Biol-1, C. Briggs, revised Fall 2013		
	Possible	Score
No longer than 3 pages	1	
Typed, double-spaced, sections labeled	1	
Grammar, spelling, sentence structure <i>4=impeccable</i> <i>3=few errors</i> <i>2=many errors, posing obstacles to comprehension</i>	4	
Part 1: Article summary <i>For parts 1-3:</i> <i>8=clear, coherent, thorough</i> <i>6=incoherent, or lacking depth and completeness</i> <i>4=minimal, incomplete, or mostly unintelligible</i> <i>0=absent</i>	8	
Part 2: Connect to class	8	
Part 3: Evaluation of scientific quality of article, such as your judgment, skepticism	8	
Total	30	

period, and make an honest effort to complete all lab activities. Part of your responsibility is to help your table-mates, and then to help the rest of the class complete the lab. Participation points are an encouragement, and are otherwise forfeited.

Lab: The laboratory portion is intended to teach you how science is done. You will learn to carry out a variety of kinds of observations and measurements. You will learn to use some kinds of lab tools and instruments. The focus will be on empirical science as a way of learning about the real world, including observations, testable questions, hypotheses, experimental design, and hypothesis testing. There will be a series of class exercises and written assignments intended to develop some of these skills.

Grading: Lab work is worth roughly one-third of the points in the course.

				Grading Scale:		
Lecture:	Quizzes (best 7 of 9)	7 x 10 pts	70	A	≥ 90%	≥ 567 pts
	Exams	2 x 50 pts	100	B	≥ 80%	≥ 504
	Final Exam		125	C	≥ 70%	≥ 441
Lab:	Quizzes (best 10 of 12)	10 x 10 pts	100	D	≥ 60%	≥ 378
	Participation	15 x 5 pts	75	F	< 60%	< 378
	Midterm		35			
	Final		35			
Assignments:	Review Questions	3 x 10 pts	30			
	Scientific Article Critique		30			
	Field Observations	2 x 15 pts	30			
	Total		630			

Policies:

1. **Attendance:** The most successful students come to class. Please save yourself from distraction and keep everyone safe by leaving children and friends elsewhere. If you are absent you are still responsible for anything discussed or assigned during class, including altered deadlines or test dates. If you miss class, be sure to get notes, handouts, and assignments from another student, since material covered in lecture may not always be in the text. Laboratories cannot be made up. I will drop those who miss the first 30 minutes of the first class meeting.

2. **Enrollment Policy:** Be sure to attend consistently in the first two weeks. If you miss a class in the first two weeks, please tell me if you intend to stay in the class, since I will drop absent students to make room for those on the waitlist. Otherwise, if you intend to leave the course, please do it officially. The deadline to add is March 7, to drop without a grade of "W" is March 9, and to drop with a "W" is May 2.

3. **Considerate Behavior:** Please help maintain our positive learning environment by arriving on time, limiting unrelated conversations, and minimizing your use of cell phones. Cell phones may not be used during exams or other forms of assessment such as quizzes or in class assignments. If you touch your cell phone during any in-class graded assignment, I must assume that you are cheating, take the exam from you, and give you a grade of zero. (And you're right, I would rather not!)

4. **Assignments and Late Assignments:** Assignments (papers, journals) are due by the end of lecture on the due date. Lab assignments are due by the beginning of your next lab session. Assignments turned in after they are due are penalized by 10% and then an additional 40% after 48 hours (half-credit). Assignments will not be accepted once the graded assignments have been returned to your classmates.

Note to those in Monday's lab: If your lab day falls on a holiday, you will be given a make-up assignment, to be due in lab the following week. Details will be given in class.

5. **Make-up exams:** If you are ill, or have some kind of emergency, and will miss an exam (or lab midterm) as a result, call me as soon as you are able and leave a message (before class meets, if possible). I am at 909-274-5808. Immediately upon your return, you will take the same exam your classmates took, open note and open book. If you score at least 80%, then the 0 recorded for the missing exam will be prorated from your other test scores. (e.g., If you average 89% on all other exams, you will have an 89% on your missing exam.) If you fail to achieve 80% or more on the missing exam, your score will remain 0. You will be able to make up one exam, but not the final.

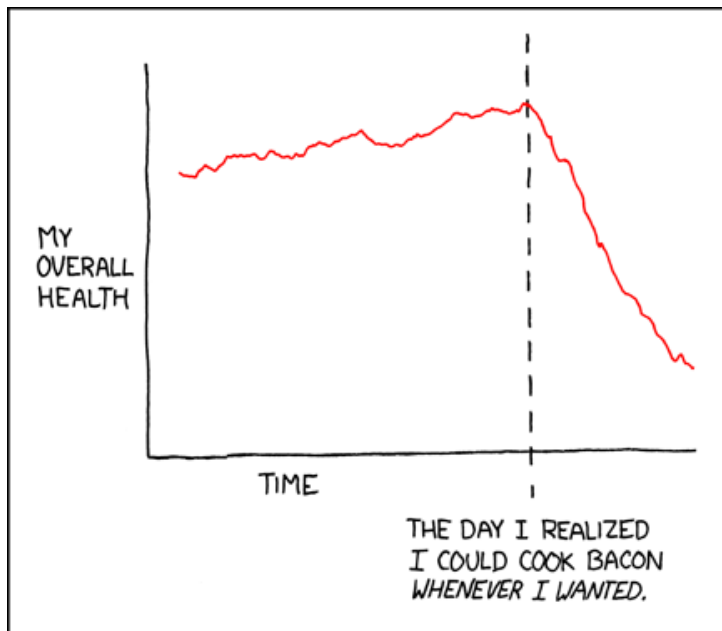
Quizzes in lecture and lab cannot be made up. Your lowest two lecture and lowest two lab quiz scores are dropped.

6. **Cheating, Plagiarism, and Academic Integrity:** Cheating and plagiarizing are dishonest, unfair, and devalue your degree. As a result, the college and the biology department have regulations that carry serious penalties, including failing this course. These regulations are detailed in the College Catalog and in our lab manual, and part of my job is to enforce them.

Disabled Student Programs & Services (DSP&S): 909-274-4290. Offers eligible students a variety of disability-related services, such as priority registration, counseling, notetakers, sign language interpreters, enlargement of materials, and other reasonable accommodations based on the student's educational limitations and needs.

Some Advice for Success: Biology can be a challenging subject, requiring lots of time outside of class. My advice is that you seek help before you think you need it!

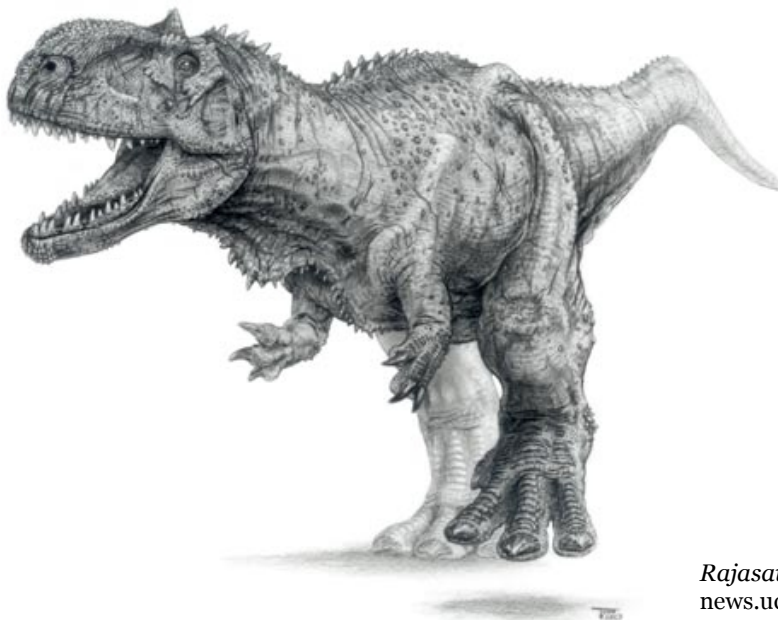
1. Introduce yourself to your classmates. Working with a group of inquisitive friends is a great way to identify material that you do not understand.
2. Study your notes the same day at home or the following day. We remember a very small percentage of what we hear, but if we review what we have heard, early and often, then we are more likely to remember it.
3. Read the textbook and rewrite your notes.
4. Ask Questions: If you do not understand the material, please ask me, or write your question down and ask me later. Since I love teaching, I am happy to help you understand the material. Asking questions if you don't understand is one of the most powerful things you can do to learn.



"Stove Ownership." xkcd.com/418; Accessed Aug 2013



"Study." xkcd.com/749; Accessed Aug 2013



Rajasaurus narmadensis. Todd Marshall, 2003. news.uchicago.edu. Accessed 17 Jan 2011.

Mt. San Antonio College
Biological Sciences Department Policy on Student Cheating

POLICY

1. No dictionaries, reference materials, notes, or programmable calculators may be used during any exam or quiz unless authorized by the professor.
2. No electronic devices, of any type, may be used during any exam or quiz unless authorized by the professor.
 - a. Electronic devices include, but are not limited to: cell phones, PDAs (personal digital assistants), earphones, cameras, MP3 players, translation devices, and electronic dictionaries.
3. No talking, signaling, sharing of note cards, calculators or other materials is allowed during any exam or quiz, unless authorized by the professor.
4. Only the materials required or authorized for an exam or quiz should be taken out of your notebook, backpack, pocket, or purse. All other materials should be put away as instructed, including electronic devices.
5. Students may not leave the classroom during an exam or quiz unless authorized by the professor. If a student leaves the room without permission, the test or quiz will be forfeited at that time.
6. This policy will be strictly enforced by all professors in all classes taught in the Department.

CONSEQUENCES:

7. A single act of cheating or academic dishonesty in any form may result in receiving a 0 on that test, quiz or assignment.
8. Action taken by the professor will be consistent with the college policy on cheating and academic dishonesty. In addition, a report regarding the violation will be submitted to the Director of Student Life for further action, which may also result in further disciplinary action, including, but not limited to suspension or expulsion from the college.

WHAT IS CHEATING?

- Some examples of cheating include, but are not limited to:
- a. Plagiarism, which is the use of materials authored by another person or obtained from a commercial source or the use of passages without proper acknowledgment.
 - b. Having or using unauthorized materials during any exam or quiz
 - c. Notes concealed in or written on clothing, hats, or skin (as examples).
 - d. Looking at another student's work during any exam or quiz.
 - e. Changing answers on a returned exam in order to claim there had been a grading error.
 - f. Sharing any content of exams or quizzes with individuals who have not yet taken it.
 - g. Removing an exam or quiz from the classroom without the professor's approval.
 - h. Taking photos of exams, quizzes, completed ScanTrons®, or exam keys.
 - i. Turning in work that was generated by other individuals or by the same individual but in a prior semester, including but not limited to: lab report data, lab report or homework questions, homework assignments, and extra credit assignments.
 - j. Working together on a lab experiment when told to work individually.
 - k. Falsifying lab data.
 - l. Allowing another student to look at your exam or quiz, or allowing another student to copy your homework, lab reports, or other assignments. (If that work is duplicated you may also receive the same penalties listed above for violation of the Biology Department Policy on Cheating, and the college policy on cheating and academic dishonesty.)
 - m. Falsifying documents, including signatures.

If you are unclear about what constitutes cheating in your class or for a particular assignment, please contact your instructor for clarification before the assignment is due.

- Keep this policy for your records.

Last updated February 22, 2013