

Biol 100: Concepts of Biology

Dr. Jennifer Maupin

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Office hours: MW 11:05-12:30, T 2:30-3:30; R 8:30-9:20 am; and by appointment

Lecture: 9:35-10:55 am T & R; EBS 309

Labs: (all labs are in EBS 202)

CRN 58354: T 11:10-2:15

CRN 59093: T 2:30-5:35 Instructor: Tami Elmfors, tlcaddelmfors@pipeline.sbcc.edu

CRN 59697: R 11:10-2:15

CRN 59698: R 2:30-5:35 Instructor: Tami Elmfors

Textbook: There are two options for your recommended textbook. **Concepts of Biology** by Openstax is available free online at the following site: <https://openstax.org/details/books/concepts-biology>. You can view this textbook online, download and print it as a pdf, or purchase a printed and bound copy from the SBCC bookstore (\$29). It can also be purchased online in various forms.

The other textbook option is **Campbell Biology, Concepts and Connections, 8th ed**, by Reece, Taylor, Simon, & Dickey. A custom SBCC edition of this textbook is sold at the campus bookstore for \$50 less than the standard textbook. Older (7th) editions can be used. This is a more expensive option than Openstax (\$117 new at bookstore), but goes more in-depth on some topics and includes more figures.

I recommend that you skim assigned chapter sections before coming to class and then refer back to specific topics addressed during lecture.

Lab manual: Your required lab manual, **Biology 100 Concepts of Biology Laboratory Studies**, includes all content you will need for the lab portion of the course. This is available in the SBCC bookstore.

Course overview: Welcome to Bio 100. This course is an introduction to the diversity of life on earth and life's levels of complexity. The course is intended for non-biology majors, and my goal as your instructor is to help you achieve a good understanding of the basic principles of life on earth. I also hope that you will develop a lifelong appreciation of biology – you will see for yourself that understanding biology makes the world a much more interesting place. Upon successful completion of this course, students should be able to:

1. Use critical thinking skills to apply the Scientific Method, specifically to the collection and analysis of data and the development and testing of hypotheses.
2. Distinguish major groups of organisms based on cellular structure, acquisition of energy, and reproduction.
3. Recognize evolution as the central paradigm of Biology, and explain how traits observed in living and extinct organisms are the result of natural selection and other evolutionary processes and serve to illustrate the ancestral relationships among all organisms.
4. Define the relationships among DNA, genes, and the expression of traits in organisms. Describe the mechanisms by which genetic information is transmitted during reproduction.
5. Recognize ecological relationships between organisms and their environment. Relate relevant topics in biology to the human experience and our impact on the natural world.

This course satisfies the SBCC general education requirement in Natural Sciences, and is transferable to both UC and CSU as a general education laboratory science course. This course does not apply toward the Biology major at SBCC.

Course Requirements and Expectations: You are required to enroll in and attend both the lecture and lab portions of this course to receive course credit. You are expected to attend every class meeting. If you miss a class, it is *your responsibility* to obtain information and materials dispensed in that class period **from a classmate**. If you miss more than two labs or three lectures, you may be dropped from the course.

Inclusiveness: The SBCC community supports ALL students without regard to race, ethnicity, religion, national origin, immigration status, age, gender identity, sexual orientation, language, socioeconomic status, medical status or disability. As your instructor, I am committed to upholding these ideals to the best of my ability. If you face discrimination or aggression inside or outside of the classroom I encourage you to come to me and I will help you identify resources and determine a plan of action. I am here to fully support you in your scholastic, professional, and personal growth. You can read the details of the official SBCC statement here: http://www.sbcc.edu/boardoftrustees/files/board_resolutions/Resol%2017%20Student%20Success%20Support%20for%20all%20Students.pdf

Classroom Community Rules: In order to achieve a positive learning environment for all, there are some rules that we need to observe as a class. Individuals engaging in disruptive or distracting behavior, as determined by the instructor, may be asked to leave. Here are some general guidelines:

- Arrive to class on time, and do not leave early. Do not leave class and reenter during lecture.
- Do not use cell phones, ear buds, or other electronic devices during lecture or lab.
- **You must receive special permission from the instructor to use a computer or tablet during lecture or lab.** Approved computers or tablets are only to be used for taking notes.
- Do not converse with your classmates (or yourself!) while the instructor or other presenter is addressing the class. If you have a question or discussion item, please raise your hand.
- Be respectful of your instructor, college staff, and your fellow students.

Course Assignments:

Assignments	Points	% of course grade
Exam 1; Thurs, Feb 14	100	11.6 %
Exam 2; Thurs, March 7	100	11.6 %
Exam 3; Tues, April 9	100	11.6 %
Fin Exam; Tues, Dec 7, 8 am	200	23.2 %
Lecture quizzes/activities	5 @ 10 pts. each = 50	6 %
Lab quizzes	10 @ 15 pts. each = 150	17.5 %
Lab assignments	15 @ 10 pts. each = 150	17.5 %
Learning Resources Worksheet	1 @ 10 pts. each = 10	1 %
Total	860	100 %

Exams: Exams will primarily cover lecture material, although there may also be questions from labs and assigned text. I will go over exam structure as we approach each exam.

Exam Make up policy: I understand that sometimes unforeseen conflicts with exam times may arise. If you have a conflict or think you will have to miss an exam, contact your instructor **as soon as you become aware of a potential conflict** to see if we can arrange an alternative plan. I will consider each case individually and a make up exam is NEVER guaranteed. **Unless I hear from you prior to the exam and approve a request to take the exam on an alternative date, you will only be able to make up a missed exam if you have documentation that emergency circumstances beyond your control kept you from taking the exam.**

Lecture quizzes: There will be six unscheduled lecture quizzes or activities, which may include homework assignments. In-class quizzes/activities will address material covered in the previous and/or current lecture period or homework assignments, and you will be allowed to use your notes. *Hint: Take good notes, and bring your class notes and assignments to lecture.* **There will be no make-ups.** Your lowest lecture quiz/activity grade will be dropped.

Lab quizzes: There will be eleven lab quizzes that will generally take place in the first ten minutes of lab. Each quiz is worth 15 pts. Your lowest lab quiz will be dropped. Quizzes will generally cover material from the previous weeks' labs as well as preparatory material for the current week's lab. Make sure you have

correctly answered all questions before you leave lab each week – you may be quizzed on these the following week. Read each week's lab prior to the beginning of lab, so that you are aware of what to expect. If you arrive to lab late, you will have only what remains of the 10-minute quiz period to complete the quiz.

There are no quiz make-ups.

Lab assignments: Completed lab assignments are sometimes graded at the end of the lab period, and are sometimes due at the beginning of the following week's lab. Listen to your instructor's instructions each week regarding how to earn that week's lab points.

Turn in assignments ON TIME: Assignments turned in late will be assessed a 10% penalty per day late.

Your grade: Your final grade will be based on the number of points you have earned over the course of the semester. The percentages corresponding to letter grades listed below are minimum guarantees. For example, if you earn 90-100% of all possible points, you are guaranteed an A. You are responsible for knowing where you stand in the course. I recommend you keep all graded assignments I return to you.

Course grade	Final Grade Determination	
	Percentage of total points	Number of points earned
A	90-100%	774 - 860
B+	87-89%	748 - 773
B	83-86%	714 - 747
B-	80-82%	688 - 713
C+	77-79%	662 - 687
C	70-76%	602 - 661
D	55-69%	473 - 601
F	0-54%	0 - 472

Your success: I want you to do well in this course. Please email or come see me if you have any questions or problems with the course, assignments, anything to do with your experience here at SBCC, or if you just want to chat. It is my job to help you succeed. If I am not able to help you, I will try to put you in touch with someone who can. Also, don't think that you should wait until a problem arises to come see me or talk to me. Come anytime, no question is too small – students that attend class regularly and keep an open line of communication with the instructor typically perform better in the course.

Course Communication: I will use Canvas and your Pipeline email for class communication. Check this account regularly to receive important course announcements. I will post assignment grades in Canvas, as they are available.

Academic honesty: Academic dishonesty (including plagiarism) will not be tolerated in this course. Refer to SBCC's academic integrity statement (directions to website are on your Learning Resources Worksheet) for standards of conduct and penalties. **All work submitted must be your own.**

Accommodations for Students with Disabilities: Disability Services and Programs for Students (DSPS) coordinates all academic accommodations for students with documented disabilities at Santa Barbara City College. If you have or think you might have a disability that impacts your educational experience in this class, contact DSPS to determine your eligibility for accommodations.

DSPS is located in the Student Services (SS) Building, Room 160. Their phone number is [805-730-4164](tel:805-730-4164). If you have already registered with DSPS, please submit your accommodation requests via the '**DSPS Online Services Student Portal**' as soon as possible. This needs to be done each semester. *If you have any questions or concerns about your accommodations, please make an appointment with a DSPS Counselor.*

Complete this process in a timely manner to allow adequate time to provide accommodations.

Lecture and Lab schedule. This schedule is subject to change by the instructor. However, every effort will be made to adhere strictly to the exam and assignment due dates given here. Updates to this schedule and/or reading assignments will be communicated in lecture and/or through Canvas or email.

Week	Dates	Lecture	Text Chapters O = Openstax C = Campbell	Lab
1	Jan 15 & 17	Introduction; The Scientific Method	O&C: 1	Lab 1: Biological Observations and Perspectives
2	Jan 22 & 24	Cell theory; Cells, Bacteria, and Protoctists Thurs: Learning Resource Worksheet due	O: 3, 13 C: 4, 16	Lab 2: Microscopes and Cells
3	Jan 29 & 31	Cell life: Chemistry & Molecules of Life	O: 2 C: 2, 3	Lab 3: Movement of Molecules: Diffusion & Osmosis; Lab Quiz 1
4	Feb 5 & 7	Energy & membranes; Energy harvesting: Cellular Respiration	O: 4 C: 5, 6	Lab 4: Cellular Respiration and Enzymes Lab Quiz 2
5	Feb 12 & 14	Tues: Photosynthesis; Start Cellular Reproduction (Mitosis) Thurs: Exam 1	O: 5, 6 C: 7, 8	Lab 5: Photosynthesis Lab Quiz 3
6	Feb 19 & 21	Cellular reproduction; Meiosis & Heredity	O: 6, 7, 8 C: 8, 9	Lab 14: Digestion and Nutrition do on your own outside of class
7	Feb 26 & 28	Genetics; DNA and RNA; Viruses	O: 9, 10, 17 C: 10, 11, 12	Lab 6: Genetics and Heredity; Lab Quiz 4 (over Lab 5)
8	Mar 5 & 7	Tues: Evolution & Natural Selection Thurs: Exam 2	O: 11 C: 13	Lab 7: Biotech –Transformation Lab Quiz 5
9	Mar 12 & 14	Population Genetics & Speciation	O: 11 C: 13, 14	Lab 8: Biotechnology – DNA Fingerprinting; Lab Quiz 6
10	Mar 19 & 21	Classification and Biological Diversity	O: 12, 14, 15 C: 15, 17, 18	Lab 9: Evolution & Natural Selection; Lab Quiz 7
	Mar 25 - 29	Spring Break – no class		
11	Apr 2 & 4	Ecology: Populations, Communities & Ecosystems	O: 19, 20 C: 34, 36, 37	Lab 10: Plant Biology Lab Quiz 8
12	Apr 9 & 11	Tues: Exam 3 Thurs: Animal Behavior	O: none C: 35	Lab 11: Botanical Garden Lab Quiz 9
13	Apr 16 & 18	Physiology: Respiration, Circulation	O: 16 C: 20, 22, 23	Lab 13: Santa Barbara Museum of Natural History No Lab Quiz
14	Apr 23 & 25	Physiology: Nervous System & Reproduction	O: 16, 18 C: 28, 27	Lab 12: Sandy Beach Ecology Lab Quiz 10
15	Apr 30 & May 2	Conservation Biology	O: 21 C: 38	Lab 15: Physical Fitness Lab Quiz 11

Final Exam: Tuesday, May 7, 8 am, EBS 309