

BISC 103Lx: General Biology for the Environment and Life

Instructors

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Lectures (GFS 101): T/TH 9:30 - 10:50 am

Labs (ZHS 460): Wed 9:00 -11:50 am or
Wed 1:00 - 3:50 pm or
TH 12:00 - 2:50 pm

General Course Description and Policies

Welcome to BISC 103L. This is a one semester introductory biology lecture and laboratory course that covers important aspects of general and molecular biology. While the text and outline are similar to introductory courses taught at other universities, this course is tailored more specifically to Environmental Studies and other life science studies at USC. This course is not appropriate for medical school preparation and will not serve as a prerequisite for upper division courses in biology. Students majoring in biology, chemistry, other natural sciences, or engineering will normally register in the BISC 120L sequence. Consult your advisor and the instructor immediately if you have questions about BISC103L vs. BISC 120L. Students majoring in neuroscience should take BISC 220, for which this course is not a substitute.

Environmental Studies is an interdisciplinary field in which students are required to master elements of several traditional disciplines in addition to content and methods specific to their own fields. This fast-paced biology overview will provide a background in cell, organismal and plant biology. You will learn about how biology and evolution are affected by environmental conditions and how populations interact with each other. In order to provide a rigorous one-semester survey, BISC 103L will not address all specialized concepts in many areas traditionally covered in biology classes.

Fundamental concepts in chemistry are required for an understanding of biology. The student should have a working knowledge of high school chemistry, and is urged to take the companion chemistry course, CHEM 103L: *General Chemistry for the Environment and Life*. The chemical concepts that we shall use regularly throughout the course will reinforce those of CHEM 103L.

Textbook

- *Biology: Concepts & Connections*, by Campbell, 7th edition. Benjamin Cummings
- *General Biology for the Environment and Life Laboratory Manual*, Fall 2014 edition. USC Custom Publishing

Website

<https://blackboard.usc.edu/>

- All course materials, information, recordings, quizzes, and grades will be posted on Blackboard until Winter Recess. We will also make extensive use of Blackboard discussion forums, as will be explained in lecture. Blackboard is to be used only for appropriate, course-related activities. Use for other purposes will result in disciplinary action.

Lecture Schedule T-Th 9:30 am - 10:50 am, GFS 101

Date	Day	Topic	Campbell – Concepts & Connections 7 th Ed.
Aug 26	T	01 Introduction to Biology: Exploring Life	Ch 1 & 2
Aug 28	Th	02 The Cell	Ch 4 & 5
Sep 2	T	03 Cellular Energy	Ch 6
Sep 4	Th	04 Photosynthesis	Ch 7
Sep 9	T	05 Reproduction and Inheritance	Ch 8 & 9
Sep 11	Th	06 Molecular Biology of the Gene	Ch 10
Sep 16	T	07 Genetic Control	Ch 11
Sep 18	Th	EXAM 1	
Sep 23	T	08 Replication and Genetic Control	Ch 11
Sep 25	Th	09 Population Evolution & Speciation	Ch 13 & 14
Sep 30	T	10 Speciation & Evolutionary History	Ch 14 & 15
Oct 2	Th	11 Microbial Life	Ch 16
Oct 7	T	12 Microbial Life & Plants	Ch 16 & Ch 17
Oct 9	Th	13 Fungi & Plant Nutrition	Ch 17 and Ch 32
Oct 14	T	EXAM 2	
Oct 16	Th	14 DNA and the “-omic Revolution”	Ch 12
Oct 21	T	15 The Evolution of Invertebrate Diversity	Ch 18
Oct 23	Th	16 The Evolution of Vertebrate Diversity	Ch 19
Oct 28	T	17 Unifying Concepts of Animal Structure and Function	Ch 20
Oct 30	Th	18 Plants Form and Function	Ch 31-33
Nov 04	T	19 The Biosphere: Earth’s Diverse Environments	Ch 34
Nov 06	Th	20 Behavioral Adaptations to the Environment	Ch 35
Nov 11	T	EXAM 3	
Nov 13	Th	21 Population Ecology	Ch 36
Nov 18	T	22 Communities and Ecosystems	Ch 37
Nov 20	Th	23 Conservation Biology	Ch 38
Nov 25	T	24 Special topics: Invasive Species	Posted on Blackboard
Nov 27	Th	<i>Thanksgiving Holiday</i>	-----
Dec 2	T	25 Ecosystems/ Conservation Biology	Ch 37-38
Dec 4	Th	26 Climate Change	Posted on Blackboard
Dec 11	Th	EXAM 4 – 11:00 a.m. – 1:00 p.m.	Material covered in lectures 11/13-12/4

E-mail: Students are welcome and encouraged to e-mail the instructional team. When you do, the subject line should state: “BISC 103”.

Grading:

The numbers of points for the various parts of the course are:

Midterm x 4 (100 pts each)	400 points
Outline and research for presentation	50 points
Oral presentation	50 points
Laboratory	265 points

 Course Total 765 points

Attendance to both lectures and labs is important. Chronic missed classes will adversely affect your performance. More than two unexcused absences in the lab can result in a failing grade for the lab portion of the course.

Examinations

Four 80-minute examinations will be given. Each will cover the material of the preceding section of the course. A student is not allowed to start an exam after the first student has left the exam room. Lecture examinations can and will cover anything that is discussed in class, even if the material is not explicitly covered in the text. This allows professors to provide updated information or interesting examples that illustrate concepts in the text. For this reason, it is very important that you attend class. Those who do not attend will surely do more poorly on examinations.

Final grades

Final grades are assigned on a curve, based on the total number of points earned in the course. After each exam a curve will be given by the instructors to indicate roughly what letter grade corresponds to the student's current number of points. Please remember that (1) the course mean given on Blackboard is NOT authoritative, and (2) that only the total number of points earned determines your course grade. We will be glad to discuss your performance, and your possible grades, at any time throughout the course.

Re-grading of exams

If you wish to have exam questions re-graded, you must submit your exam along with the Exam Regrade Request Form (pdf) to Dr. Chong-Cerrillo within one week of when your exam was returned to the entire class/lab. Your request must be typewritten and thoroughly explained in writing; oral requests will not be considered. The entire examination will be re-graded, not just the part you think deserves more credit. Your score may go up or down as a result of a re-grade. Regrade requests will not be honored if the exam was taken in pencil.

Policy on Missed Exams

No make-up exams will be given – except in serious situations. If you miss an exam or quiz due to illness, and wish us to make an accommodation, you should proceed as follows. Present a written request to the Lab Manager within 3 days of the missed exam. This request needs to include documentation that you feel is appropriate to demonstrate a legitimate reason for missing said exam. If we judge your excuse to be valid, we will, at our discretion, give you a grade for the missed exam equal to the average of your grades for the equivalent exams that you did take. With respect to student privacy we will not dictate what sort of documentation needs to be provided, however, our decision is ultimately based on what documentation we do receive. Please note that your physician has to be licensed to practice medicine by the State of California (www.mdbd.ca.gov). Also note that it's considered unethical and unwise for a physician to provide medical care for a family member. The recommended sanction for falsification of medical documentation is an F in the course and suspension or expulsion from the university. Therefore submit the appropriate documentation accordingly. Except in extraordinary circumstances, we will make accommodations for only one missed lecture exam. If your excuse is judged not to be valid, or you do not provide it within the allotted time, you will receive a score of zero for the missed exam.

If you miss the final examination and have provided a valid medical excuse to the Lab Manager within 72 hours of the examination time, a final course grade of incomplete (IN) will be recorded and you will be permitted to take a make-up final examination during the following semester.

Students who wish to miss an examination for observance of a religious holy day should be aware of the University's policy on such absences, published at:

<http://orl.usc.edu/religiouslife/holydays/absences.html>. Requests for such absences should be made by email to the Lab Manager and the instructor at least 2 weeks in advance of the absence. If the absence is approved, a reasonable accommodation will be provided.

Academic Integrity

Students must work independently on all individual assignments except that data will sometimes be shared for laboratory experiments. All USC students are responsible for reading and following the USC Student Conduct Code, which prohibits plagiarism. Some examples of behavior that is not allowed are: copying all or part of someone else's work (by hand or by looking at others' files, either secretly or if shown), and submitting it as your own; giving another student in the class a copy of your assignment solution; consulting with another student during an exam; and copying text from published literature without proper attribution. If you have questions about what is allowed, please discuss it with the instructor.

Students who violate University standards of academic integrity are subject to disciplinary sanctions, including failure in the course and suspension from the University. Since dishonesty in any form harms the individual, other students, and the University, policies on academic integrity have been and will be strictly enforced.

The Trojan Integrity Guide can be found at <http://www.usc.edu/student-affairs/SJACS/forms/tio.pdf>.

The Undergraduate Guide for Avoiding Plagiarism can be found at <http://www.usc.edu/student-affairs/SJACS/forms/tig.pdf>.

Preparation of the oral presentation

An outline is required. This outline should specifically highlight the major points of each slide of your talk (*i.e.*, 5-10 slides) and should include the references that you are basing your talk on.

The outline is due Thursday, **Oct 23rd**. The presentation schedule will be assigned in lab.

This presentation should be ten minutes in length. It will be followed by a discussion period of five minutes, during which other students are urged to ask questions and to consider the material. The use of visual aids is expected in the presentation. Grades will be assigned on the basis of significance of the topic, quality of the material, and the quality of the presentation. Detailed guidelines will be distributed later.

Subject Matter The choice of subject for the talk is up to the student, but must deal with the material of the course. In general, a subject that deals with any aspect of biology from an environmental aspect will be accepted. Topics that are not suitable will result in reduced credit. Students are urged to discuss the subject of their paper with any of the teaching staff of the course. It is not necessary that every student choose a different topic; many students can, and often do, present the same subject. In this case, of course, all the students must work independently.

Sources of Material There exists a large variety of different reference sources. These include the following popular level scientific magazines and research journals:

<i>Scientific American</i>	<i>Discover</i>
<i>Science</i>	<i>New Scientist</i>
<i>Science News</i>	<i>Nature (any version)</i>
<i>American Scientist</i>	Any Research journal for a particular scientific field

Any of these sources can serve as a rich supply of ideas and information. You may use references from any of them freely. You will often find excellent articles in *Time*, *Newsweek*, the newspapers (particularly the *New York Times* and the *Los Angeles Times*). Note particularly the excellent section on health in the Monday edition of the *LA Times* and other news periodicals. Most of these are now available on the web. Newspaper articles are quite satisfactory as sources, but must be appropriately referenced. In addition to

the popular magazines concerning science, there exist a number of more formal scientific journals used by the professionals in the field. You will usually find these articles too advanced to be read easily, but you may certainly feel free to use them if you wish. The World Wide Web is an excellent source of information and ideas. The Web and associated electronic means of communication are changing our society. While they are very powerful, be careful of information from the Web. This material is almost completely unrefereed, and may (and often does) contain significant errors. You may *not use only the Web* as a source of information. Some web sites of interest are:

www.medlineplus.gov

<http://www.cdc.gov/>

<http://www.fda.gov/>

<http://www.nih.gov/>

<http://www.ncbi.nih.gov/entrez/query.fcgi>

<http://www.usda.gov/>

These are well-curated governmental web sites.

Always cite scientific journals as journals whether accessed online or in print. You are responsible for checking your sources to be sure that the information you report is correct. This is a significant part of modern scholarship.

Students with Disabilities

Any student requesting academic accommodations based on a disability is required to register with the Office of Disability Services and Programs (DSP, STU 301, 213-740-0776) each semester. You must deliver an approved DSP letter to one of the instructors at least two weeks before the first exam. Please see SCampus (<http://www.usc.edu/dept/publications/SCAMPUS/>) for additional policies that are not covered here (i.e. academic integrity, proper conduct, etc) but that do still apply!