



USC Dornsife

Dana and David Dornsife
College of Letters, Arts and Sciences

BISC 103Lxg: General Biology for the Environment and Life

4 units

Spring 2025—Tuesday/Thursday— 9:30 - 10:50 am

Lecture hall: THH 210

Instructor: Dr. John Heidelberg

Office: AHF 141

Office Hours: TBD (or by appointment)

Contact Info: Email: camegan@usc.edu

Instructor: Dr. Trond Sigurdson

Office: AHF 139

Office Hours: TBD (or by appointment)

Contact Info: Email: sigurdse@usc.edu

Laboratory Manager: Eric Noakes

Office: ZHS 353

Office Hours: By Appointment

Contact Info: enoakes@usc.edu

Required Texts:

- *Biology: Concepts & Connections*, by Campbell, 10th edition. Benjamin Cummings
- *General Biology for the Environment and Life Laboratory Manual*, Spring 2025 edition. USC Custom Publishing

Course Description

This is a one-semester introductory biology lecture and laboratory course that covers important aspects of general biology. This fast-paced biology overview will provide a background in cell- and organismal biology, including the evolution and diversity of animals and plants. You will learn about how biology and evolution are affected by environmental conditions and how populations interact with each other.

Learning Objectives

Students will gain basic skills and knowledge in biology, including key concepts of evolution, systematics, ecology, genetics, molecular biology, physiology, and anatomy through lectures and lab experiments. They should also be able to present topics in biology orally using proper scientific terminology.

Students will be able to:

1. Understand basics of biological concepts and the scientific method
2. Explain the specific principles of biological evolution and natural selection
3. Demonstrate understanding of the intricate nature of relationships among organisms in functioning ecosystems
4. Describe key groups of the major domains of life, including prokaryotes and eukaryotes
5. Explain basic nutrient cycles and how nutrients affect biology and ecology
6. Discuss issues in conservation biology in light of ecology and biological diversity
7. Think critically and creatively when describing how biology and the environment interact

Prerequisite(s): None

Co-Requisite(s): None

Recommended Preparation: CHEM 103L: *General Chemistry for the Environment and Life*

Course Notes

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. 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. This course is not appropriate for medical school preparation and will not serve as a prerequisite for many 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.

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.

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.

Email Communication:

To ensure privacy, only student's USC email accounts may be used for email communications. Students are responsible for understanding the content of email messages that the instructor sends to their USC accounts. Therefore, each student must check their USC email regularly and make sure their account is not over quota, so new messages can be received.

Assignment Submission Policy

Oral Presentation Project

Your Oral Presentation Project consists of 2 components: Outline and Presentation, each receiving a grade. Refer to the *Guidelines for Oral Presentation Project* document for details regarding this assignment. The entire Oral Presentation Project must be **ORIGINAL WORK** by the student involved.

Plagiarism is strictly forbidden and will be treated with the usual University rules if it is encountered (see above).

Outline An outline consisting of PowerPoint slides is required for your oral presentation project. Before you can turn in your outline, you must **submit 3 different topics** in order to get your **topic approved**. (DUE DATES TBD) You will email your 3 topic choices according to detailed instructions provided once the semester begins. The PowerPoint outline will be submitted through your COURSE Brightspace site, under "Assignments". 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. For every 12-hour increment the Outline is handed in late, 10% of the total possible points will be deducted from your grade [e.g., if the outline is past 120 hrs (5 days) late, you will receive no points for this assignment]. More detailed information regarding the Outline expectations can be found in the *Guidelines for Oral Presentation Project* document.

Presentation The oral presentation will consist of a 12-15 minute talk followed by a discussion period of up to five minutes, during which other students are **urged** to ask questions and to consider the material. All presentations should be prepared with Microsoft PowerPoint, using the 2010 or later version. Grades will be assigned on the basis of science/significance of the topic, quality of the material, and the quality of the presentation. Detailed guidelines can be found in the *Guidelines for Oral Presentation Project* document. The presentations will be given in lab during the last 3 weeks of class. The schedule will be assigned in lab.

Policy for Missed Presentation Once you have signed up for a date to give your presentation, you will not be able to change it unless you have a valid medical emergency, accompanied with official written documentation (the Absence of Class - Self Verification Form provided by the Student Health Center is *insufficient documentation* for our purposes). If you do not have a valid medical excuse, it will be at the discretion of the Laboratory Manager to determine whether you will be able to make up the Presentation, if time allows.

You must attend ALL your lab session during the 3 presentation weeks. If you do not have a valid excuse for missing lab [with official written documentation presented to the Laboratory Manager, within two (2) days of the missed lab], *2 points will be deducted from your Oral Presentation grade for EACH presentation you miss (i.e., if 5 students present, 10 points will be deducted from YOUR presentation grade)*. If you have a valid excuse for missing your lab, it must be accompanied with official written documentation (the Absence of Class - Self Verification Form provided by the Student Health Center is *insufficient documentation* for our purposes) and presented to the Laboratory Manager, within two (2) days of the missed lab. *You are, however, still responsible for making up the missed presentations* by attending another lab section's presentations. If you fail to do this, points will still be deducted regardless of excuse.

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 any 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.

Grading Timeline

Grades for Midterm Exams will be posted within one calendar week following the exam date.

Grading Breakdown

The course grade will be based upon **775 possible points**:

Assignment	Points	% of Grade
Midterm 1	100	13
Midterm 2	100	13
Midterm 3	100	13
Final Exam	100	13
Oral Presentation Project	100	13
Laboratory grade	275	35
Total	775	100

Grading Scale

Course final grades will be determined using the following scale:

A	90.1 - 100
A-	86.7 - 90
B+	83.3 - 86.6
B	80 – 83.2
B-	76.7 – 79.9
C+	73.3 – 76.6
C	70 – 73.2
C-	66.7 – 69.9
D+	63.3 – 66.6
D	60 – 63.2
D-	56.7 – 59.9
F	≤56.6

Additional Policies

Missed Exams

NO make-up exams will be given. If you miss an exam or quiz due to an emergency, 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 and USC policy. Please note that your physician has to be licensed to practice medicine by the State of California (www.medbd.ca.gov). Also note that it is 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.

Please note: the Student Health Center has changed their medical excuse policy. The Student Health Center will no longer provide: 1) class excuse notes for illness, 2) clinical appointments for class excuse, and 3) authentication of outside physician certificates. The Absence of Class - Self

Verification Form provided by the Student Health Center is insufficient documentation for our purposes.

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 year.

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/life/calendar/absences/>. Requests for such absences should be made by email to the Lab Manager and the instructors at least 2 weeks in advance of the absence. If the absence is approved, a reasonable accommodation will be provided.

Re-grading of Exams

If you wish to have exam questions re-graded, you must submit photos of your exam along with the information listed below to Eric Noakes via e-mail within one week of the time exams were returned to your scheduled lab section. Your request must be typewritten and thoroughly explained in writing; oral requests will not be considered. The entire examination may 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. Your regrade request must include: A subject line reading "[Your Initials] Exam [1/2/3/4] Regrade Request", your full name and USC ID number, your lecture and lab section numbers, a complete list of questions you want considered in numerical order, photographs of your exam responses and the key embedded in the e-mail, and detailed explanations for why you think you should have received more points using citations as necessary.

Final grades

We will be glad to discuss your performance, and your possible grades, at any time throughout the course. Please remember that (1) the course mean given on Brightspace is NOT authoritative, and (2) that only the total number of points earned determines your course grade. The final grades are based on the total number of points earned in the course (see above). The Trojan Integrity Guide can be found at <http://sjacs.usc.edu/students/academic-integrity/>. The Undergraduate Guide for Avoiding Plagiarism can be found at <https://sjacs.usc.edu/files/2015/03/tig.pdf>

Brightspace and Posting of Grades

Brightspace lists BISC 103 lecture and lab sections as "separate courses". Exam grades will be posted in the lecture Brightspace page while lab grades will be posted in the lab Brightspace page. However, be sure to check for additional postings and announcements both in the lecture section and the lab section on a weekly basis. Brightspace is convenient system to communicate grades; however, **those grades are not authoritative**. It is the student's responsibility to notify your TA or Lab Manager ASAP in the event of any mistakes in your posted grade.

Please remember that (1) the course mean given on Brightspace is also 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. Help provided in this way should be considered only provisional. Your later performance may change (sometimes dramatically) the best- meant extrapolation.

Lecture Schedule:

Wk	Date	Day	Topic	Campbell – Concepts & Connections 9 th Ed.
1	Jan 14	T	01 Introduction to Biology: Exploring Life	Ch 1, 2 & 3
	Jan 16	Th	02 The Cell	Ch 4 & 5
2	Jan 21	T	03 Cellular Energy	Ch 6
	Jan 23	Th	04 Photosynthesis	Ch 7
3	Jan 28	T	05 Reproduction and Inheritance	Ch 8 & 9
	Jan 30	Th	06 Molecular Biology of the Gene	Ch 10
4	Feb 4	T	07 Genetic Control and Genomics	Ch 11 & 12
	Feb 6	Th	<i>EXAM 1</i>	
5	Feb 11	T	08 Genetic Control and Genomics	Ch 11 & 12
	Feb 13	Th	09 Genetic Control and Genomics	Ch 11 & 12
6	Feb 18	T	10 Population Evolution and Speciation	Ch 13 & 14
	Feb 20	Th	11 Speciation and Evolutionary History	Ch 14 & 15
7	Feb 25	T	12 Microbial Life - Prokaryotes	Ch 16
	Feb 27	Th	13 Microbial Life - Protists	Ch 16
8	Mar 4	T	<i>EXAM 2</i>	
	Mar 6	Th	14 Fungi	Ch 17
9	Mar 11	T	15 Introduction to animals	Ch 18-20
	Mar 13	Th	16 Invertebrate Diversity	Ch 18-20
10	Mar 18 Mar 20		<i>Spring recess</i>	
11	Mar 25	T	17 Vertebrate Diversity	Ch 19
	Mar 27	Th	18 Vertebrate Diversity	Ch 19
13	Apr 1	T	19 Vertebrate embryology and aging	Ch 27
	Apr 3	Th	20 Vertebrate Structure and Function	Ch 30
13	Apr 8	T	<i>EXAM 3</i>	
	Apr 10	Th	21 Plant Diversity	Ch 17
14	Apr 15	T	22 Plant Diversity	Ch 17
	Apr 17	Th	23 Plants Form and Function	Ch 31-33
15	Apr 22	T	24 The Biosphere	Ch 34
	Apr 24	Th	25 The Biology of Behavior	Ch 35
16	Apr 29	T	26 Ecology/Ecosystems	Ch 36-37
	May 01	Th	27 Conservation Biology/Climate Change	Ch 38
	May 13		<i>FINAL EXAM, Tuesday, May 13</i>	<i>8.40 a.m.</i>

Statement on Academic Conduct and Support Systems

Academic Conduct

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in *SCampus* in Part B, Section 11, “Behavior Violating University Standards” policy.usc.edu/scampus-part-b. Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct, <http://policy.usc.edu/scientific-misconduct>.

Support Systems:

Student Counseling Services (SCS) – (213) 740-7711 – 24/7 on call

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

engemannshc.usc.edu/counseling

National Suicide Prevention Lifeline – 1 (800) 273-8255

Provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week. www.suicidepreventionlifeline.org

Relationship and Sexual Violence Prevention Services (RSVP) – (213) 740-4900 – 24/7 on call

Free and confidential therapy services, workshops, and training for situations related to gender-based harm. engemannshc.usc.edu/rsvp

Sexual Assault Resource Center

For more information about how to get help or help a survivor, rights, reporting options, and additional resources, visit the website: sarc.usc.edu

Office of Equity and Diversity (OED)/Title IX Compliance – (213) 740-5086

Works with faculty, staff, visitors, applicants, and students around issues of protected class.

equity.usc.edu

Bias Assessment Response and Support

Incidents of bias, and hate crimes need to be reported allowing for appropriate investigation and response. studentaffairs.usc.edu/bias-assessment-response-support

Office of Student Accessibility Services (OSAS)

Provides certification for students with disabilities and helps arrange relevant accommodations.

<https://osas.usc.edu/about/contact-location-hours/>

Student Support and Advocacy – (213) 821-4710

Assists students and families in resolving complex issues adversely affecting their success as a student EX: personal, financial, and academic. studentaffairs.usc.edu/ssa

Diversity at USC

Information on events, programs and training, the Diversity Task Force (including representatives for each school), chronology, participation, and various resources for students.

diversity.usc.edu

USC Emergency Information

Provides safety and other updates, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible. emergency.usc.edu

USC Department of Public Safety – UPC: (213) 740-4321 – HSC: (323) 442-1000 – 24-hour emergency or report a crime. Provides overall safety to USC community. dps.usc.edu