



# USCDornsife

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College of Letters, Arts and Sciences

**BISC 103Lxg: General Biology for the Environment and Life**  
**4 units**  
**Spring 2021—Tuesday/Thursday— 9:30 - 10:50 am**  
**Lectures will be given on Zoom**

**Instructor: Dr. John Heidelberg**

**Office: AHF B16**

**Office Hours: T/TH 11:00 am – 12:00 pm**

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**Instructor: Dr. Trond Sigurdsen**

**Office: ZHS 256**

**Office Hours: Wednesday 11:00 am – 1:00 pm**

**Contact Info:** Email: [sigurdse@usc.edu](mailto:sigurdse@usc.edu)

**Laboratory Manager: Eric Noakes**

**Office: ZHS 353**

**Office Hours: By Appointment**

**Contact Info:** [enoakes@usc.edu](mailto:enoakes@usc.edu)

## Required Texts:

- *Biology: Concepts & Connections*, by Campbell, 9th edition. Benjamin Cummings
- *General Biology for the Environment and Life Laboratory Manual*, Spring 2019 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 online 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 Blackboard 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 over Zoom 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**:

<b>Assignment</b>	<b>Points</b>	<b>% of Grade</b>
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
<b>Total</b>	<b>775</b>	<b>100</b>

## **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](http://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 your exam along with the Exam Regrade Request Form (pdf on Blackboard) to Dr. Chong-Cerrillo within one week of the time exams were 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 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. Regrade requests will not be honored if the exam was taken in pencil or if white-out was used.

### **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 Blackboard is NOT authoritative, and (2) that only the total number of points earned determines your course grade. The final grades are assigned on a curve, based on the total number of points earned in the course.

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>

### **Blackboard and Posting of Grades**

Blackboard lists BISC 103 lecture and lab sections as "separate courses". All grades (lecture and lab) are posted in your LAB section. However, be sure to check for additional postings and announcements both in the lecture section and the lab section on a weekly basis.

Blackboard is convenient system to communicate grades; however, ***those grades are not authoritative***. It is the student's responsibility to notify your TA or Lab Director ASAP in the event of any mistakes in your posted grade.

Please remember that (1) the course mean given on Blackboard 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 <sup>th</sup> Ed.
1	Jan 19 Jan 21	T Th	Introduction to Biology: Exploring Life The Cell	Ch 1, 2 & 3 Ch 4 & 5
2	Jan 26 Jan 28	T Th	Cellular Energy Photosynthesis	Ch 6 Ch 7
3	Feb 2 Feb 4	T Th	Reproduction and Inheritance Molecular Biology of the Gene	Ch 8 & 9 Ch 10
4	Feb 9 <b>Feb 11</b>	T Th	Genetic Control and Genomics	Ch 11 & 12 <b>EXAM 1</b>
5	Feb 16 Feb 18	T Th	Genetic Control and Genomics Genetic Control and Genomics	Ch 11 & 12 Ch 11 & 12
6	Feb 23 Feb 25	T Th	Population Evolution and Speciation Speciation and Evolutionary History	Ch 13 & 14 Ch 14 & 15
7	Mar 2 Mar 4	T Th	Microbial Life - Prokaryotes Microbial Life - Protists	Ch 16 Ch 16
8	<b>Mar 9</b> Mar 11	T Th	<b>EXAM 2</b>	Ch 17
9	Mar 16 Mar 18	T Th	Introduction to animals Invertebrate Diversity	Ch 18-20 Ch 18-20
10	<b>Mar 23</b> Mar 25	T Th	<b>Wellness Day (no class)</b> Vertebrate Diversity	Ch 19
11	Mar 30 Apr 1	T Th	Vertebrate embryology and aging Vertebrate Structure and Function	Ch 27 Ch 30
13	<b>Apr 6</b> Apr 8	T Th	<b>EXAM 3</b> Plant Diversity	Ch 17
13	Apr 13 Apr 15	T Th	Plant Diversity Plants Form and Function	Ch 17 Ch 31-33
14	Apr 20 <b>Apr 22</b>	T Th	The Biosphere <b>Wellness Day (no class)</b>	Ch 34
15	Apr 27 Apr 29	T Th	Behavior, Ecology/Ecosystems Conservation Biology/Climate Change	Ch 35-37 Ch 38
	<b>May</b>		<b>FINAL EXAM, TBD (Exam Period May 5-12)</b>	

**Wellness Day:** This is a day on which there will be no classes and no classwork expected of students. Students are encouraged to use this time to rest, exercise, and connect with friends and family.

## **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](http://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>.

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, including lab reports; 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.

### **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](http://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](http://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](http://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](http://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](http://equity.usc.edu)

*Bias Assessment Response and Support*

Incidents of bias, hate crimes and microaggressions need to be reported allowing for appropriate investigation and response. [studentaffairs.usc.edu/bias-assessment-response-support](http://studentaffairs.usc.edu/bias-assessment-response-support)

*The Office of Disability Services and Programs*

Provides certification for students with disabilities and helps arrange relevant accommodations. [dsp.usc.edu](http://dsp.usc.edu)

*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](http://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](http://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](http://emergency.usc.edu)

*USC Department of Public Safety – UPC: (213) 740-4321 – HSC: (323) 442-1000 – 24-hour emergency or to report a crime.*

Provides overall safety to USC community. [dps.usc.edu](http://dps.usc.edu)