



**BISC 120Lg: General Biology:
Organismal Biology and Evolution**

Fall 2024 - 4 units

Mon, Wed, Fri 9:00am – 9:50am

Room: SAL 101

Instructor: Nancy Castro, PhD

Office: ZHS 256

Office Hours: via Zoom Monday 10:30-11:30am & by appt.
(zoom link posted on Brightspace)

Contact Info: ncastro@usc.edu

Lab Manager: Brett Spatola, PhD

Office Hours: ZHS 362, open door policy

Contact Info: spatola@usc.edu

Please keep updated with announcements on our website.

Website: <https://brightspace.usc.edu>
(site for course materials, lecture notes, quizzes, additional readings, grades, etc.)

Required Texts:

Lecture

[Campbell Biology 12th ed.](#)
(11th edition also acceptable)

Laboratory

Lab manual chapters posted as PDF files on Brightspace

Course Description

This 4-unit biology course will present several key topics in evolution, ecology, environment, and the diversity of life. These topics will be covered in weekly lectures (schedule above) and a weekly laboratory section.

Learning Objectives:

At the end of the course, students will:

- know the concepts of the scientific method
- understand how the scientific method is applied to key questions regarding the nature of life on Earth
- know the mechanisms of heredity
- know the theory of evolution
- understand how evolution explains the diversity of life on Earth
- know the defining characteristics of the domains Archaea, Bacteria, and Eukarya, with special attention to plants, fungi, and animals

- understand how the environment and organisms contribute to the evolution of ecological relationships
- understand how the environment has changed and continues to change and how this affects the evolution of life on Earth
- be able to design and conduct scientific investigations
- be able to think critically about how experimental evidence answers a scientific question
- be able to perform biological laboratory techniques

Lecture Quizzes: There will be 12 multiple choice quizzes to be completed on Brightspace during the semester. The quizzes will be posted at 11:00 A.M. on Fridays and will remain available until 9:00 A.M. the following Monday. First quiz will be announced on Brightspace and in lecture.

Exams: The lecture portion of this course will include three midterm examinations and a final examination. All examinations (midterms and final) may include multiple choice questions, fill in the blanks, matching, definitions, short answers and quantitative problems. The final examination will not be cumulative, effectively serving as a fourth midterm. Three midterms will be given during the Friday 2:00 P.M. quiz section.
To be assigned a final letter grade at the end of the course, a student must take at least two mid-term lecture examinations and the final examination and have completed at least 75% of the assigned weekly laboratory activities.

Grading: After each examination, preliminary grade point cut-offs will be released. There is not an absolute number of points that predetermines a letter grade of A, A-, B+, B, B-, etc. The final letter grade for the course will be assigned on a curve, determined by the total number of points as given below. While there are multiple sections and days offered for BISC 120 this year, your grade will only be based on your performance within this group of students (i.e., T/TH grades will not be pooled with grades from the M/W/F class to calculate final grades).

The point system will total **1000 points**, as follows:

Midterm Exam 1	150
Midterm Exam 2	150
Midterm Exam 3	150
Final Exam (not cumulative)	150
Lecture Quizzes	72
Laboratory Assignments	328

Laboratory scores may be normalized in order to correct for possible differences in grading between laboratory instructors. Any document associated with grading may be photocopied by the instructional staff.

Schedule of lecture topics (subject to modification of specific topics and reading assignments)

Week	Quiz	Lecture topics	Readings
1 Aug 26- Aug 30		Introduction; The Scientific Method Genetic Material and Expression	Course Syllabus, 1.3 12.1, 16.1, 17.1
2 Sep 02- Sep 06	Quiz 1	Sep 2, Labor Day, no lecture Mendelian Inheritance, Genetics	13, 14 15, 18.2
3 Sep 09- Sep 13	Quiz 2	Darwin and Evolution Evolutionary Mechanisms 1	22 23 and 25.6
4 Sep 16- Sep 20	Quiz 3	Evolutionary Mechanisms 2 Speciation	23 and 25.6 24.1-3
FRI Sep 20		MIDTERM 1 (Fri. lecture not included) 2pm	
5 Sep 23- Sep 27	Quiz 4	Phylogenetics and the Tree of Life Origin of Life	26.1-5 25.1
6 Sep 30- Oct 04	Quiz 5	Intro to Fossils and History of Life on Earth	25.2-4 34.1
7 Oct 07- Oct 11		Human Evolution Oct 10-11 Fall Recess, no lectures	34.7
8 Oct 14- Oct 18	Quiz 6	Viruses Prokaryotes	19.1-3 27.1-6
FRI Oct 18		MIDTERM 2 (Fri. lecture not included) 2pm	
9 Oct 21- Oct 25	Quiz 7	Endosymbiosis & Protist Diversity Fungi	28.1-6 31.1-3, 31.5
10 Oct 28- Nov 01	Quiz 8	Plant Evolution 1 Plant Diversity	29 30.1-3
11 Nov 04- Nov 08	Quiz 9	Intro to Animal Diversity Invertebrates	32 33.1-4
FRI Nov 08		MIDTERM 3 (Fri. lecture not included) 2pm	
12 Nov 11- Nov 15	Quiz 10	Nov 11, Veterans Day, no lecture Vertebrate structure	34
13 Nov 18- Nov 22	Quiz 11	Vertebrates cont. Mammals Monotremes, marsupials, eutherians	34.6
14 Nov 25- Nov 29		Ecology & Biosphere Nov 27-29, Thanksgiving, no lectures	53.1, 53.4-5, 54
15 Dec 02- Dec 06	Quiz 12	Ecology cont. Conservation Conservation cont.	55.3-5 56
Dec 18		FINAL EXAM 8am (lectures Nov. 08 Dec.6)	

Course Policies

Policy on Re-grading Exams

If you feel that an error was made in the grading of an exam, you need to do the following: 1) **DO NOT TAKE THE EXAM OUT OF THE LAB.** Exams that leave the lab room will not be considered for re-grading regardless of circumstances, 2) Check the answer key with your TA, 3) Prepare a **written statement** explaining why you feel your grade was incorrect citing either course material or the course textbook, and 4) submit your printed statement to me within **one week** of the time the exam was returned to you. The entire exam will be subjected to a re-grade and, as a result, your grade may increase or decrease from a requested re-grade. No frivolous reasons will be accepted for requesting grade changes; stated reasons for a grade change must be legitimate (e.g., error in totaling the score).

Policy on Missed Lecture Exams

No make-up lecture exams will be given in this course. You may be excused from an exam in the event of a documented illness, emergency, or other serious problem beyond your control. *No other excuses for missing exams will be accepted.* If you miss an exam for a legitimate reason, and wish to ask for an accommodation, you should proceed as follows. Within 48 hours of the missed exam, send an email to the Lab Manager a request that you be excused. In the case of illness, this request must include either an official letter from your doctor stating that you were too sick to take the exam, or your doctor's name and contact information with permission for us to contact the doctor for a limited discussion of your condition. If you see a doctor at the USC Engemann Student Health Center, you will need to download, sign, and submit an "Authorization for Disclosure of Medical Information" to give us permission to speak to your doctor. This form can be found at: <https://engemannshc.usc.edu/files/2012/11/Authorization-for-Disclosure-of-Medical-Information-Professors-Limited-Discussion.pdf>. Note that neither you nor the doctor need tell us the nature of your illness. If you miss an exam for non-illness related reasons, you must provide similarly convincing documentation of the emergency to the Lab Manager within a week. If we judge your excuse to be valid, we will give you a grade for the missed exam equal to the average of your grades for the equivalent exams that you did take. 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 exam and have provided a valid medical excuse to the Lab Manager within 48 hours of the exam time, a final course grade of **Incomplete (IN)** will be recorded and you will be permitted to take a make-up final exam during the following semester.

Policy on Missed Lecture Quizzes

No make-up lecture quizzes will be given in this course. You may be excused from a lecture quiz only in the event of a documented illness.

Extra Credit

No extra credit will be given for special projects, etc.

Impairments Affecting Your Performance

Students occasionally encounter difficulties that affect their academic performance, such as illness, accidents, bereavement, depression, anxiety, learning disabilities, and other problems. If you encounter such difficulties, please bring them to the attention of one of the instructors. We can refer you to sources of help and may be able to offer accommodations. All such discussions will be confidential. Please seek help as soon as you feel your performance is being affected.

Statement on Academic Conduct and Support Systems

Academic Integrity:

The University of Southern California is a learning community committed to developing successful scholars and researchers dedicated to the pursuit of knowledge and the dissemination of ideas. Academic misconduct, which includes any act of dishonesty in the production or submission of academic work, comprises the integrity of the person who commits the act and can impugn the perceived integrity of the entire university community. It stands in opposition to the university's mission to research, educate, and contribute productively to our community and the world.

All students are expected to submit assignments that represent their own original work, and that have been prepared specifically for the course or section for which they have been submitted. You may not submit work written by others or "recycle" work prepared for other courses without obtaining written permission from the instructor(s).

Other violations of academic integrity include, but are not limited to, cheating, plagiarism, fabrication (e.g., falsifying data), collusion, knowingly assisting others in acts of academic dishonesty, and any act that gains or is intended to gain an unfair academic advantage.

The impact of academic dishonesty is far-reaching and is considered a serious offense against the university. All incidences of academic misconduct will be reported to the Office of Academic Integrity and could result in outcomes such as failure on the assignment, failure in the course, suspension, or even expulsion from the university.

For more information about academic integrity see [the student handbook](#) or the [Office of Academic Integrity's website](#), and university policies on [Research and Scholarship Misconduct](#).

Please ask your instructor if you are unsure what constitutes unauthorized assistance on an exam or assignment, or what information requires citation and/or attribution.

Students and Disability Accommodations:

USC welcomes students with disabilities into all of the University's educational programs. The Office of Student Accessibility Services (OSAS) is responsible for the determination of appropriate accommodations for students who encounter disability-related barriers. Once a student has completed the OSAS process (registration, initial appointment, and submitted documentation) and accommodations are determined to be reasonable and appropriate, a Letter of Accommodation (LOA) will be available to generate for each course. The LOA must be given to each course instructor by the student and followed up with a discussion. This should be done as early in the semester as possible as

accommodations are not retroactive. More information can be found at osas.usc.edu. You may contact OSAS at (213) 740-0776 or via email at osasfrontdesk@usc.edu.

Support Systems:

[Counseling and Mental Health](#) - (213) 740-9355 – 24/7 on call

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

[988 Suicide and Crisis Lifeline](#) - 988 for both calls and text messages – 24/7 on call

The 988 Suicide and Crisis Lifeline (formerly known as the National Suicide Prevention Lifeline) provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week, across the United States. The Lifeline is comprised of a national network of over 200 local crisis centers, combining custom local care and resources with national standards and best practices. The new, shorter phone number makes it easier for people to remember and access mental health crisis services (though the previous 1 (800) 273-8255 number will continue to function indefinitely) and represents a continued commitment to those in crisis.

[Relationship and Sexual Violence Prevention Services \(RSVP\)](#) - (213) 740-9355(WELL) – 24/7 on call

Free and confidential therapy services, workshops, and training for situations related to gender- and power-based harm (including sexual assault, intimate partner violence, and stalking).

[Office for Equity, Equal Opportunity, and Title IX \(EEO-TIX\)](#) - (213) 740-5086

Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants.

[Reporting Incidents of Bias or Harassment](#) - (213) 740-5086 or (213) 821-8298

Avenue to report incidents of bias, hate crimes, and microaggressions to the Office for Equity, Equal Opportunity, and Title for appropriate investigation, supportive measures, and response.

[The Office of Student Accessibility Services \(OSAS\)](#) - (213) 740-0776

OSAS ensures equal access for students with disabilities through providing academic accommodations and auxiliary aids in accordance with federal laws and university policy.

[USC Campus Support and Intervention](#) - (213) 740-0411

Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

[Diversity, Equity and Inclusion](#) - (213) 740-2101

Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

[USC Emergency](#) - UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call

Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

[USC Department of Public Safety](#) - UPC: (213) 740-6000, HSC: (323) 442-1200 – 24/7 on call

Non-emergency assistance or information.

[Office of the Ombuds](#) - (213) 821-9556 (UPC) / (323-442-0382 (HSC)

A safe and confidential place to share your USC-related issues with a University Ombuds who will work with you to explore options or paths to manage your concern.

[Occupational Therapy Faculty Practice](#) - (323) 442-2850 or otfp@med.usc.edu

Confidential Lifestyle Redesign services for USC students to support health promoting habits and routines that enhance quality of life and academic performance.

Course Website

Students are responsible for logging onto Brightspace (<https://brightspace.usc.edu>) and checking the course website on a regular basis. Postings will be an official source for announcements, course materials, lecture notes, score postings and general discussions. Lecture quizzes will also be completed on Brightspace. Lecture exam scores and lecture quiz scores will be posted under your **LECTURE SECTION**. It is the student's responsibility to immediately notify the Lab Manager in the event of any mistakes, so please check your scores weekly.

Gift Policy

No gifts or presents of any kind are permissible to give to any of the instructional staff.

Changing a Lab or a Lecture Section

During the first three weeks of classes you are responsible for changing your lecture or lab section by dropping your current section and adding your new choice through *USC Web registration System*. You can switch into a new lab section only if it is open (if it has less than 20 students). If a lab section is currently closed you must wait until other students drop before you can switch into that section. No changes are allowed after the third week of classes (*i.e.*, after the second week of lab). You are responsible for printing out your grade report from Brightspace **before** changing sections, as scores may be irrevocably lost from the Brightspace system when students change sections. The same applies if changing lecture or lab sections.

Final Comments

No exceptions will be made to these policies under most circumstances. If you think that the instructor or TA has granted you **any deviation** from the policies in this document, you must obtain their **written agreement** to support that claim.

BISC 120Lg INSTRUCTIONAL TEAM

For ANY administrative questions about ANY aspects of the lecture and laboratory portions of this course, please FIRST CONTACT the Lab Manager, Brett Spatola (E-mail: spatola@usc.edu)

MWF instructor: Dr. Trond Sigurdson

TTH instructor: Dr. Cameron Egan

For lab questions: please contact Lab Manager, or your lab instructor

Lab Manager: Brett Spatola, spatola@usc.edu

Lab Instructors: TBA during the first week of classes

Supplemental instruction (SI) leader: TBD

SI study session times can be found at <http://dornsife.usc.edu/supplemental-instruction> once the semester starts.

BISC120 Laboratory Syllabus Fall 2024

Lab Manager: Brett Spatola, PhD
spatola@usc.edu

ZHS 362

Laboratory Schedule*:

Lab #	Date	Lab topic	Post-lab assignment**
	August 27-30	No labs scheduled: Lab instructor TBD	
1	September 3-6	Lab safety and syllabus	
2	September 10-13	Microscopes	Research article + questions
3	September 17-20	Scientific Investigation I	
4	September 24-27	Scientific Investigation II	Bean beetle table + figure
5	October 1-4	Evolution	Phylogenetic tree analysis
	October 8-11	No labs scheduled: Fall Recess	
6	October 15-18	Animal behavior	Jove video + questions
7	October 22-25	Bacteria I	Sample lab report + peer review
8	October 29- November 1	Bacteria II	Lab report (due before lab exam review)
9	November 5-8	Ecology	Lab report
	November 12-15	Lab exam review	
	November 18-22	Lab exam	
	November 26-29	No labs scheduled: Thanksgiving Holiday	
	December 3-6	Biodiversity Presentation	

*Lab schedule changes may occur during the semester.

**Post-labs will be due the week after it is assigned. For example, the “research article + questions” assignment will be due before the “scientific investigation I” lab. No late submissions or regrades.

Required Textbook:

BISC 120 Laboratory Manual. A PDF file for each lab topic will be posted on Brightspace, and printouts (or electronic versions) should be brought to lab each week.

Lab point distribution:

The laboratory portion (328 points) will count for ~33% of your final course grade, distributed as follows:

Post-lab assignments (4 x 10 points each)	40 pts
Lab report	40 pts
Sample lab report + peer review	8 pts
Lab exam	100 pts
PPT presentation	50 pts
Lab Manual (5 points per chapter)	45 pts
Lab Participation (5 points per lab)	45 pts

Lab performance guidelines:

You are required to attend all lab sessions. Any unexcused absences will seriously affect your evaluation and lab participation points. Come to lab on time. You are also to remain for the entire lab session or until excused by your instructor. DO NOT make any other appointments for the time you are scheduled to be in lab.

You are required to wear gloves, closed toed shoes, long pants and a knee-length lab coat during lab. Lab coats can be purchased from the USC bookstore or online.

Before you begin the lab exercise, make sure that you remove all unnecessary materials from your work area. At the end of the lab session, clean and return all supplies to their proper place, clean your work area, and slide your chair under the table to receive the full participation points. Check with your instructor before leaving.

Lab manual:

During each lab students need to record their results (drawings, observations, calculations) in their lab manual. Tables need to be filled and all post-lab questions answered. Each student is required to show the lab instructor a completed lab manual before leaving the lab. Lab manuals will be checked periodically throughout the semester. Electronic or paper copies are OK.

Post-lab assignments:

During the semester you will have homework assignments, based on the data you obtain or important concepts from your lab experiments/topics. Assignments are explained during lab more information can be found on Brightspace. Post-labs will be due 1-week after being assigned. No late submissions or regrade attempts.

Lab report:

Lab reports must be uploaded on Brightspace via the Turnitin submission link. This program will detect any forms of plagiarism (i.e. using a previous student's report, copy/paste from research articles, etc.) and use of AI-generated tools. Please create your own original lab report and do not share/collaborate with other students. Any violations will result in 0/40 points, and repercussions with Student Judicial Affairs (SJACS).

A paper copy turned in at the beginning of the lab session is optional and dependent on the lab instructor. Lab report guidelines will be posted on Brightspace in the beginning of the semester.

Lab exam:

The cumulative lab exam will test your understanding of the topics, concepts and exercises covered during the semester. It will be a 60-minute exam with a mix of multiple-choice, true/false, fill in the blank, and/or short response questions.

If you miss a lab exam due to a serious illness, you must present a valid excuse to lab manager Brett (spatola@usc.edu) within 48 hours of the missed exam. If we judge your excuse to be valid, you will be allowed to take the exam in another lab section that week. If you do not have a valid excuse or fail to provide it within the allotted time, you will receive zero points for the missed lab exam.

Missed labs

If you miss a scheduled lab due to illness or emergency, please contact lab manager Brett (spatola@usc.edu) immediately to see whether it will be possible to make up the missed lab.

Students who wish to miss a lab 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 addressed to lab manager Brett (spatola@usc.edu) at least 2 weeks in advance of the absence. If the absence is approved, the instructors will determine a reasonable accommodation for the student.

Student-athletes who must miss occasional labs for legitimate reasons should bring the SAAS excuse letter to the Lab Manager at least 2 weeks in advance so alternatives can be arranged.

Please note that no lab make-ups will be allowed during the week prior to a holiday, and for school-unrelated activities.

Lab scores

You can find scores for all of your lab assignments on Brightspace. Your lab scores will be posted under your LAB SECTION. Be sure to check for additional postings or announcements on a regular basis. It is the student's responsibility to immediately notify their lab instructor in the event of any mistakes, so please check your scores weekly.

Changing a lab section

During the first three weeks of classes, you are responsible for changing your lecture or lab section by dropping your current section and adding your new choice through USC Web registration System. You can switch into a new lab section only if it is open (i.e. if it has less than 20 students). If a lab section is currently closed, you must wait until other students drop before you can switch into that section. No changes are allowed after the third week of classes (i.e., after the second week of lab). You are responsible for printing/saving your grade report from Brightspace before changing sections, as scores may be irrevocably lost from the Brightspace system when students change sections. The same applies if changing lecture or lab sections.