



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

4 units

13003: Tue/Thu 2:00 – 3:20 PM

13029: Tue/Thu 6:30 – 7:50 PM

Lectures will be given on Zoom

Instructor: Raffaella Ghittoni, Ph.D.

Office Hours: Tue & Thu 3:30 – 4:30 pm or by request

Contact Info: rghitton@usc.edu

Lab Manager: Gorjana Bezmalinovic

Office Hours: 'Zoom chat' upon request

Contact Info: bezmalin@usc.edu

Required Texts:

Lecture

[Campbell Biology 12th ed., 2020.](#)

(11th edition also acceptable)

Laboratory

No textbook required. All the materials will be posted on Blackboard.

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

(site for course materials, lecture notes, quizzes, additional readings, grades, etc.)

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 below) and laboratory sessions. You must register for one lecture section and one lab section.

Learning Objectives:

At the end of the course, students will:

- know key concepts of the scientific method
- understand how the scientific method is applied to 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 14 multiple choice quizzes to be completed on Blackboard 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 Bb quiz will be posted on Jan 21st.

Exams: The lecture portion of this course will include three midterm examinations and a final examination. All exams (midterms and final) are conducted online through Blackboard (Respondus LockDown Browser) and will consist of 50 multiple choice questions. Exams will be closed-book tests. The final examination will not be cumulative, effectively serving as a fourth midterm. 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 exam, grade point cut-offs will be released. A grade will be assigned based on the class average – if the class average falls above 80% grades will be determined based on a regular grading scale (A=93 -100%, A-=90-92.9%, B+=87-89.9%, B=83-86.9%, *etc.*), and if the class average falls below 80%, grades will be determined on a curve. There is not an absolute number of points that predetermines a letter grade of A, A-, B+, B, B-, *etc.* in this course. The final letter grade for the course will be assigned based on the class average and student's performance on all the lecture and lab assignments.

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	70
Laboratory Assignments	330

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

Day	Quiz	Lecture	Readings
T Jan 19		1 Introduction; Biological Variation	Course Syllabus; 1.1, 1.2, 6.2,
TH Jan 21	Quiz 1	2 Genetic Material and Expression	12.1, 13.1, 13.2, 16.1, 17.1
T Jan 26		3 Mendelian Inheritance	13.3, 13.4, all 14
TH Jan 28	Quiz 2	4 Molecular Basis of Inheritance	15
T Feb 2		5 Descent with Modification	22
TH Feb 4	Quiz 3	6 Evolutionary Mechanisms	23 and 25.6
T Feb 9		7 Speciation	24
TH Feb 11	Quiz 4	8 Macroevolution	25.5-25.6
T Feb 16		MIDTERM 1	
TH Feb 18	Quiz 5	9 Phylogeny and the Tree of Life	26
T Feb 23		10 The History of Life on Earth	25.1-4
TH Feb 25	Quiz 6	11 Viruses	19
T Mar 2		12 Prokaryotes: Structure/Function/Diversity	27
TH Mar 4	Quiz 7	13 Eukaryotes: Endosymbiosis	28.1
T Mar 9		14 Protists: Origins, Diversity and Ecology	28.2-28.6
TH Mar 11	Quiz 8	15 The Fungi	31
T Mar 16		MIDTERM 2	
TH Mar 18	Quiz 9	16 How the Plants Colonized Land	29
T Mar 23		WELLNESS DAY	
TH Mar 25	Quiz 10	17 Plant Diversity and Structure	30
T Mar 30		18 Animal Diversity, Invertebrates 1	32 & 33
TH Apr 1	Quiz 11	19 Animal Diversity, Invertebrates 2	33
T Apr 6		20 Animal Diversity, Invertebrates 3	33
TH Apr 8	Quiz 12	21 Animal Diversity, Vertebrates 1	34
T Apr 13		MIDTERM 3	
TH Apr 15	Quiz 13	22 Animal Diversity, Vertebrates 2	34
T Apr 20		23 Animal Diversity, Vertebrates 3	34
TH Apr 22	Quiz 14	WELLNESS DAY	
T Apr 27		24 Animal Behavior; Introduction to Ecology	51, 52
TH Apr 29		25 Ecology & Biosphere	53, 54, 55.3-55.5, 56
TH May 6		FINAL EXAM	
2:00-3:00 PM for 13003 & 7:00-8:00 for 13029			

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

*Additional readings for specific lectures will be posted on Blackboard during the semester.

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) Carefully check the answer key to see why you lost points for some of your answers.
- 2) Send an email to your instructor explaining why you feel your score for a particular answer was incorrect.
- 3) Attach a screenshot of the question and your answer.
- 4) A re-grade request must be submitted within one week of the time the scores were posted on Bb. The entire exam will be re-graded and, as a result, your score/grade may increase or decrease from a requested re-grade. No frivolous reasons will be accepted for requesting grade changes (e.g., I wrote this, but what I meant to say was ...); 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. If you miss a midterm exam due to illness you must email a valid medical excuse to the Lab Manager within one week of the missed exam. A photo of a doctor's note or a summary of your visit would be an acceptable document, and in that case your grade for that exam will be based on the average of your other midterm and final exam scores, called "prorating". If you miss an exam for a non-illness related reason, such as an emergency, you must provide similarly convincing documentation of the emergency to the Lab Manager within 24 hours. If you do not have a valid excuse, or fail to provide it within the allotted time, you will receive a zero for that exam.

If you miss the final exam and have provided a valid medical excuse to the Lab Manager within 24 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 year.

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.

Students with Disabilities

Students requesting academic accommodations based on a disability are required to register with the Office of Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from the DSP website. Please be sure the PDF is emailed to the Lab Manager as early in the semester as possible. DSP is located in STU 301 and is open from 8:30 a.m. to 5:00 p.m., Monday through Friday. Their telephone number is 213-740-0776. If a student's

approved accommodation is limited to extra time on examinations, the teaching staff of BISC 120 will provide the accommodation. For any other accommodation, such as a private room, reader or a scribe, students must make prior arrangements with the DSP office 2 weeks before the exam date. For more information please visit the following website:

http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html.

Statement on Academic Integrity

The instructors in this course strongly support the ethics of academic integrity. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles. *Scampus*, the Student Guidebook, contains the Student Conduct Code in Section 11.00: <http://web-app.usc.edu/scampus/1100-behavior-violating-university-standards-and-appropriate-sanctions/>, while the recommended sanctions are located in Appendix A. Students will be referred to the Office of Student Judicial Affairs and Community Standards for further review, should there be any suspicion of academic dishonesty. The Review process can be found at: <http://www.usc.edu/student-affairs/SJACS/>.

Course Website

Students are responsible for logging onto Blackboard (<https://blackboard.usc.edu>) and checking the course website on a regular basis. Postings on Blackboard will be an official source for announcements, course materials, lecture notes, score postings and general discussions. Lecture quizzes will also be completed on Blackboard. 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 on Blackboard 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. You are responsible for taking a screenshot of your scores from Blackboard **before** changing sections and emailing it to your lab manager so your scores can be transferred to the new section. 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 120 LABORATORY SYLLABUS**Lab Manager:** Gorjana Bezmalinovicbezmalin@usc.edu

Office hours: 'Zoom chat' upon email request

Laboratory Schedule:

Lab #	The Week Of	Laboratory
	Jan 18 th	NO LAB THIS WEEK
1	Jan 25 th	Lab Safety
2	Feb 1 st	Mendelian Inheritance*
3	Feb 8 th	Experimental Design / Scientific Reading*
4	Feb 15 th	Evolution*
5	Feb 22 nd	Animal Genetics & Gel Electrophoresis
6	Mar 1 st	Invertebrate Model System (<i>C. elegans</i>)*
7	Mar 8 th *	Regeneration
8	Mar 15 th	The Gram Stain*
9	Mar 22 nd *	Plants*
10	March 29 th	Food webs (lab report due)
	April 5 th *	Eutrophication (peer review due)
	Apr 12 th	LAB EXAM
	Apr 19 th *	Biodiversity Conservation Presentation
	Apr 26 th *	Biodiversity Conservation Presentation

* Exercise for which there is a homework/post-lab assignment.

* Exercise for which 5-7 pages, typed lab report is required.









* 'Wellness Days' that affect lab schedule:

- **Friday, March 12** – no lab for FRI lab sections → watch the Zoom recording/ homework & simulation due on Saturday
- **Wednesday, April 7** – no lab for WED lab sections → watch the Zoom recording/ simulation & peer review due on Thursday
- **Thursday, April 22** – no lab for THU lab sections → everyone will present the following THU, on the 29th
- **Friday, April 30** – no lab for FRI lab sections → everyone will present a week earlier, on FRI the 23rd

Some minor changes might occur during the semester.

LABORATORY POINT DISTRIBUTION

The laboratory portion (**330 points**) will count for **33%** of your final course grade, distributed as follows:

-  Lab activities (virtual labs) – 100 pts (10 x 10)
-  Post-lab quizzes – 30 pts (3 x 10)
-  Homework – 10 pts
-  Scientific Reading – 10 pts
-  Lab Report – 40 pts
-  Lab Report Peer Review – 10 pts
-  Biodiversity Conservation Presentation – 30 pts
-  Lab Exam – 100 pts

LAB SCORES

Scores for all the lab assignments will be posted on Blackboard – <https://blackboard.usc.edu/>, under your **LAB SECTION**. It is the student's responsibility to immediately notify their Lab Instructor or Lab Manager in the event of any mistakes, so please check your Blackboard scores weekly.

LABORATORY ATTENDANCE

You are required to attend your Lab Instructor's '**Zoom lab sessions**' during the scheduled lab time. Those who cannot be present due to time zone constraints will be excused and will be able to watch the recordings. It is a student's responsibility to follow up with their Lab Instructor if they have any questions related to specific virtual lab activities.

LABSTER VIRTUAL LABS

You will be required to do virtual lab simulations. You will be asked questions throughout the virtual lab activities and your scores will be recorded on Blackboard (Bb) after you complete each simulation.

HOMEWORK & POST-LAB QUIZZES

You will have one homework assignment and three post-lab quizzes, based on the material you covered in lab, or data obtained in your lab experiments. Assignments will be posted on Bb.

PRE-LAB ASSIGNMENT – SCIENTIFIC READING

You will have to read a peer-reviewed scientific paper and answer questions on Bb before you come to lab. You are expected to participate in a lab discussion of the paper with your lab instructor and your labmates.

LAB REPORT

After one of the lab activities you will have to write a scientific lab report. Lab report guidelines will be posted on Bb in the beginning of the semester. Lab report will be submitted on Blackboard through the [turnitin link](#).

LAB REPORT PEER REVIEW

Each student will review one of their lab-mates' lab reports. Instructions will be posted on Blackboard. This assignment will be done on Blackboard.

BIODIVERSITY CONSERVATION PRESENTATION

This assignment will be done in pairs. You will have to prepare a presentation about an endangered species or a disappearing habitat and share it with your labmates through Zoom. Detailed guidelines will be posted on Bb.

LAB EXAM

The cumulative lab exam will test your understanding of the topics, concepts and activities covered during the entire semester. This 90-minute test (30 questions) will be administered on Bb. The exam will consist of multiple-choice questions, T/F, fill in the blanks, matching and short answers, and it will be a closed-book exam.

It is your responsibility to take the lab exam during the scheduled exam time.

- 🌈 If you miss a lab exam due to a serious illness, you must present a valid excuse to the Lab Manager (bezmalin@usc.edu) **within 24 hours** of the missed exam. A valid excuse is considered to be an official note from your doctor, or the summary of your visit. Note that neither you, nor your doctor, need to tell us the nature of your illness – we just want to verify whether you were too ill to take the exam.
- 🌈 If you miss an exam for non-illness related reasons, you must provide similarly convincing documentation of the emergency to the Lab Manager within 24 hours. If we judge your excuse to be valid, you will be allowed to take the make-up lab exam. If you do not have a valid excuse or fail to provide it within the allotted time, you will receive a zero.
- 🌈 Students who miss a lab exam due to the 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 the Lab Manager (bezmalin@usc.edu) at least 2 weeks in advance of the absence. If the absence is approved, the student will be allowed to take the make-up lab exam.
- 🌈 Student-athletes who will have to miss the lab exam due to a previously scheduled NCAA competition should bring the SAAS excuse letter to the Lab Manager at least 2 weeks in advance so alternatives can be arranged.

LAB SCORE NORMALIZATION

The lab scores will be normalized at the end of the semester by the Lab Manager to correct for differences in grading between Lab Instructors/TAs.

STUDENTS WITH DISABILITIES

Students requesting academic accommodations based on a disability are required to register with the Office of Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from the DSP website. Please be sure to email the accommodations letter (PDF) to the Laboratory Manager as early in the semester as possible, preferably by Jan 29, 2021. DSP is located in GFS 120 and is open from 8:30 a.m. to 5:00 p.m., Monday through Friday. Their telephone number is 213-740-0776. If a student's approved accommodation is limited to extra time on exams, the teaching staff of BISC 120 will provide the accommodation. For any other accommodation, such as a private room, reader or a scribe, students must make prior arrangements with the DSP office 2 weeks before the exam date. For more information please visit the following website: http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html.