

**BISC 120Lg Lecture Syllabus, Summer 2021**  
**General Biology: Organismal Biology and Evolution**  
February 28, 2021 Version

**Overview**

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 a series of four weekly lectures (Monday, Tuesday, Wednesday, and Thursday) and two weekly laboratory sessions (Tuesday and Thursday).

**Learning Objectives**

At the end of the course, students will:

- know the concept 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

**Faculty Instructors** Dr. Raffaella Ghittoni, ZHS 256, 213-740-8352, [rghitton@usc.edu](mailto:rghitton@usc.edu)  
Dr. Oliver Rizk, AHF 135, 213-740-4862, [orizk@usc.edu](mailto:orizk@usc.edu)

**Lab Manager** Gorjana Bezmalinovic, ZHS 362, 213-740-6078, [bezmalin@usc.edu](mailto:bezmalin@usc.edu)

**Textbooks** [Campbell Biology 12<sup>th</sup> ed., 2020.](#)

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

**Lecture times** Monday, Tuesday, Wednesday, Thursday, 10:00 A.M. – 12:05 P.M.

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**Laboratory times** Tuesday and Thursday, 1:00 – 3:50 P.M.

**Office Hours** Ghittoni: Monday and Wednesday, 12:05 to 1:00 P.M.

Rizk: Monday and Tuesday, 12:05 to 1:00 P.M.

## Exams

The lecture portion of this course will include four exams (two from each professor). All exams may include multiple choice questions, matching questions, fill-in answers, true/false answers, short answers, short essays, definitions, and quantitative problems. Students must take all four lecture exams to complete the course and complete at least 80% of the assigned laboratory activities.

## Lecture Quizzes

**Five lecture quizzes** (each worth 15 points) will be administered online via **Blackboard**. The quizzes will be posted by 2:00 pm on Fridays and will remain available until 9:00 am the following Monday. The first quiz will be posted on **May 28**. Questions will cover **the preceding week's material**. Answers to quiz questions will be posted at the end of each quiz period.

## 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:

Exam 1	150
Exam 2	150
Exam 3	150
Exam 4	150
Lecture Quizzes	75
<u>Laboratory Assignments</u>	<u>325</u>
TOTAL POINTS IN COURSE	1000

Laboratory scores will be normalized as explained in the laboratory syllabus in order to correct for possible differences in grading between teaching assistants (TAs).

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## Schedule of lecture topics

(subject to modification of specific topics and reading assignments\*):

Day		Lecturer	Lecture	Readings
Wed	May 19	Ghittoni/Rizk	1 Introduction; The Scientific Method	Course Syllabus, 1.3
		Ghittoni	Genetic Material and Expression	12.1, 16.1, 17.1
Thu	May 20	Ghittoni	2 Mendelian Inheritance 1	14
Mon	May 24	Ghittoni	3 Mendelian Inheritance 2	14
Tue	May 25	Ghittoni	4 Molecular Basis of Inheritance	15
Wed	May 26	Ghittoni	5 The Darwinian Revolution, Mechanisms 1	22, 23, 25.6
<b>Thu</b>	<b>May 27</b>	Ghittoni	<b>EXAM 1</b>	
<b>Mon</b>	<b>May 31</b>	Ghittoni	<b>MEMORIAL DAY NO CLASS!</b>	
Tue	June 1	Ghittoni	6 Evolutionary Mechanisms 2; Speciation 1	23.3-4, 24.1-2, 25.5
Wed	June 2	Ghittoni	7 Speciation 2	24.3-4, 25.5
Thu	June 3	Ghittoni	8 The History of Life on Earth	25
Mon	June 7	Ghittoni	9 Phylogeny and the Tree of Life	26
Tue	June 8	Ghittoni	10 Prokaryotes	27
<b>Wed</b>	<b>June 9</b>	Ghittoni	<b>EXAM 2</b>	
Thu	June 10	Rizk	11 Viruses	19
Mon	June 14	Rizk	12 Endosymbiosis and Protists 1	28, 31.1-3
Tue	June 15	Rizk	13 Protists 2; Fungi	28, 31.1-3, 31.5
Wed	June 16	Rizk	14 Plant Evolution 1	29
<b>Thu</b>	<b>June 17</b>	<b>Rizk</b>	<b>EXAM 3</b>	
Mon	June 21	Rizk	15 Plant Evolution 2, Animal Development	29, 30.1-3, 32
Tue	June 22	Rizk	16 Animals: Invertebrates, Vertebrates 1	33 & 34
Wed	June 23	Rizk	17 Animals: Vertebrates 2	34
Thu	June 24	Rizk	18 Ecology and Biosphere 1	52-56
Mon	June 28	Rizk	19 Ecology and Biosphere 2	52-56
<b>Tue</b>	<b>June 29</b>	<b>Rizk</b>	<b>EXAM 4</b>	

\*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 the grader 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 2 days 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 have to miss a lecture exam due to religious holiday (<http://orl.usc.edu/religiouslife/holydays/absences.html>) or university-sanctioned event (*e.g.*, student athletes with away-games) you must notify the Lab Manager **at least 7 days in advance**. If you miss an exam due to medical illness you must email a valid medical excuse to the Laboratory Manager ([bezmalin@usc.edu](mailto:bezmalin@usc.edu)) **within 48 hours** of the missed exam. The excuse cannot be to attend a dental appointment, a conference, or other similar reasons. The reason for missing an exam must be of a medical nature or totally unavoidable (*e.g.*, a verified automobile collision on the day and time of the examination). Remember that the USC Student Health Center does not provide routine medical excuses. You should notify the Laboratory Manager in writing that you were seen by a doctor, making sure that you include: 1) the doctor's name and telephone number, and 2) a statement authorizing us to discuss with the doctor whether you were too ill to take the examination. We will contact the doctor and decide whether or not you have a valid excuse. If the excuse is valid, your grade for that exam will be pro-rated based on the average of your other comparable exams and the class average for that particular test. An invalid excuse will result in a score of zero for the missed exam.

If you miss the final exam and have provided a valid medical excuse to the Laboratory Manager **within 48 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. **You will receive zero points for an exam if you miss it for an invalid reason.**

### **Extra Credit**

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

### **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 DSP. Be sure your accommodations letter is emailed to the Laboratory Manager ([bezmalin@usc.edu](mailto:bezmalin@usc.edu)) as early in the semester as possible, preferably **by May 24, 2021**. DSP is located in STU 301 and is open from 8:30 a.m. to 5:00 p.m., Monday through Friday. The telephone number of DSP 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, computer, scribe, etc., 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](http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html)

### Statement on Academic Integrity

USC seeks to maintain an optimal learning environment. 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 (SJACS) 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/>.

### 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, lab notes, score postings and general discussions. Weekly quizzes will also be completed on Blackboard.

### Gift Policy

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

### 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 and associated course syllabus, you must obtain their **written agreement** to support that claim.

## BISC 120 Laboratory Syllabus

Lab Manager: Gorjana Bezmalinovic

[bezmalin@usc.edu](mailto:bezmalin@usc.edu)

Office hours: Open door policy – ‘Zoom chat’ upon email request

Laboratory Schedule:

Lab #	Date	Laboratory
1	May 20 <sup>th</sup>	Lab Safety
2	May 25 <sup>th</sup>	Mendelian Inheritance
3	May 27 <sup>th</sup>	Experimental Design / Scientific Reading
4	June 1 <sup>st</sup>	Evolution
5	June 3 <sup>rd</sup>	Animal Genetics & Gel Electrophoresis
6	June 8 <sup>th</sup>	Regeneration
7	June 10 <sup>th</sup>	The Gram Stain*
8	June 15 <sup>th</sup>	Plants
9	June 17 <sup>th</sup>	Food webs (lab report due)
10	June 22 <sup>nd</sup>	Eutrophication (peer review due)
	June 24 <sup>th</sup>	LAB EXAM
	June 29 <sup>th</sup>	Biodiversity Conservation Presentation

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

Some minor changes might occur during the semester.

### LABORATORY POINT DISTRIBUTION

The laboratory portion (**325 points**) will count for **~33%** of your final course grade, distributed as follows:

-  Lab simulations – 55 pts (11 x 5)
-  Post-lab quizzes – 80 pts (10 x 8)
-  Homework – 10 pts
-  Lab Report – 40 pts
-  Lab Report Peer Review – 10 pts
-  Biodiversity Conservation Presentation – 30 pts
-  Lab Exam – 100 pts

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### 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 complete *Labster* simulations prior to attending lab sessions. You will be asked questions throughout these simulations and your scores will be recorded on Blackboard (Bb) after you complete each simulation.

### POST-LAB QUIZZES

You will have a post-lab quiz after each lab. Quizzes will be posted on Bb.

### HOMEWORK

You will have one homework assignment based on the material you covered in lab, or data obtained in your lab experiments. Assignment will be posted on Bb.

### SCIENTIFIC READING

You will have to read a peer-reviewed scientific paper and participate in a lab discussion 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.

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### BIODIVERSITY CONSERVATION PRESENTATION

This assignment will be done in pairs. You will have to prepare a presentation about an endangered species or a threatened 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 and students will have to be on Zoom during the exam. The exam will consist of multiple-choice questions, T/F, fill in the blanks, matching and short answers.

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](mailto: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](mailto: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 May 24, 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](http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html).