

Course Overview: BISC 121Lg is an advanced introductory course that will expose students to the breadth of biological diversity, evolution, and environmental biology. The course is designed to provide relatively even coverage of all major taxonomic groups, providing an evolution-based description of form and function, and an overview of ecology, behavior, population genetics, and conservation biology.

Learning Objectives:

At the end of the course, students will:

- understand how the scientific method is applied to key questions regarding the nature of life on Earth
- be able to design and conduct scientific investigations
- know the mechanisms of heredity, and 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 protists, plants, fungi, and animals
- be able to explain how pathogens such as viruses and bacteria can spread and evolve
- understand how the environment and organisms contribute to the evolution of ecological relationships
- be able to think critically about how experimental evidence answers a scientific question
- be able to perform biological laboratory techniques

Lecturers:

Trond Sigurdson, Ph.D.

Office: AHF 139

sigurdse@usc.edu

Zoom chat and Office Hours : TBA

Jed Fuhrman, Ph.D.

Office: AHF 211, 213 740-5757

fuhrman@usc.edu

Zoom chat and Office Hours by appointment

Lab Manager: **Dr. Brett Spatola**, spatola@usc.edu

Lab Instructors: **Dr. Christa Bancroft**, cbancrof@usc.edu, **Dr. Raffaella Ghittoni** rghitton@usc.edu,
Nancy E Castro ncastro@usc.edu, **Rory Spence** rspence@usc.edu

Supplemental Information Leader (SI Leader): **TBA**

Required Textbooks:

Lecture: [Campbell Biology](#), Reece et al., 11th edition, 2016.

Laboratory: All the materials will be posted on Blackboard.

Website: <https://blackboard.usc.edu/> (for detailed class notes, announcements and grades—you will want to check this website regularly)

Grading: Final grades are assigned on a curve, determined entirely by the total number of points earned on lecture exams and in the laboratory. See the **Course Contract** posted on Bb for more details. After each exam a curve will be published to indicate roughly what letter grade corresponds to each student's

current number of points. **Only the total number of points earned by the end of the course will determine the final grade.**

Exam Schedule:

- Exam 1: Friday, Sep 16 (10:00 – 10:50 AM)
- Exam 2: Monday, Oct 10 (10:00 – 10:50 AM)
- Exam 3: Monday, November 7 (10:00 – 10:50 AM)
- Exam 4: Monday, December 12th, 8-10 AM

Lecture Quizzes:

There will be 12 multiple choice quizzes to be completed on Blackboard during the semester. The quizzes will be posted approximately 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 Aug 26th.

For policies on re-grading and missed exams, refer to Course Contract available on the course website.

Students with Disabilities: Any student requesting academic accommodations based on a disability is 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 that the letter is delivered to the laboratory director as early in the semester as possible, preferably by September 4. DSP is located in GFS 120 and is open 8:30-5:00, Monday through Friday. The telephone number for DSP is 213-740-0776.

Lecture schedule:

Date	Lecture Topic	Campbell Biology 11 th Ed.	Lecturer	Lecture Number
Aug 21	Introduction	Ch.14,15,16*	Sigurdson	1
Aug 23	Darwinian Evolution: Concepts & Background	Ch. 22, 23	Sigurdson	2
Aug 25	Genetics, and The Modern Synthesis	Ch. 22	Sigurdson	3
Aug 28	Micro/Macroeolution: Evolutionary Processes		Sigurdson	4
Aug 30	Microevolution	Ch. 24	Sigurdson	5
Sept 1	Macroeolution, the Species Concept, Speciation	Ch. 24	Sigurdson	6
Sept 4	Labor Day			
Sept 6	Introduction to paleontology, dating fossils	Ch. 25	Sigurdson	7
Sept 8	Phylogeny, Systematics, The Tree of Life	Ch. 26	Sigurdson	8
Sept 11	Unicellular Eukaryotes: Protists I	Ch. 26	Sigurdson	9
Sept 13	Unicellular Eukaryotes: Protists II	Ch. 28	Sigurdson	10
Sept 15	1st EXAM			Exam 1
Sept 18	Fungi Phylogeny and Ecology	Ch. 31	Sigurdson	11
Sept 20	Intro to Animal Diversity	Ch. 32	Sigurdson	12
Sept 22	Animal Diversity		Sigurdson	13
Sept 25	Invertebrates I	Ch. 33	Sigurdson	14
Sept 27	Invertebrates II	Ch. 33	Sigurdson	15

Sept 29	Chordates, Vertebrates	Ch. 34	Sigurdson	16
Oct 2	Amphibians, Reptiles	Ch. 34	Sigurdson	17
Oct 4	Mammals	Ch. 34	Sigurdson	18
Oct. 6	Primates & Hominid Evolution	Ch. 34	Sigurdson	19
Oct 9	2nd EXAM			Exam 2
Oct 11	Origins of Life	Ch. 25	Fuhrman	20
Oct 13	Fall Recess			
Oct 16	Virus Introduction	Ch. 19	Fuhrman	21
Oct 18	Viruses and Prokaryotic Genetics	Ch. 18.1, 27	Fuhrman	22
Oct 20	Prokaryote Structure & Function	Ch. 27	Fuhrman	23
Oct 23	Prokaryote Metabolic Diversity	Ch. 27	Fuhrman	24
Oct 25	Prokaryote Diversity and Ecology	Ch. 27	Fuhrman	25
Oct 27	The Evolution of Land Plants	Ch. 29	Fuhrman	26
Oct 30	Seed Plants	Ch. 30	Fuhrman	27
Nov 1	Elements of Plant Structure and Function	Ch.35-39 (concepts only)	Fuhrman	28
Nov 3	Behavioral Biology	Ch. 51	Fuhrman	29
Nov 6	3rd EXAM			Exam 3
Nov 8	Introduction to Ecology	Ch. 52	Fuhrman	30
Nov 10	Veterans Day			
Nov 13	Population Ecology	Ch. 53	Fuhrman	31
Nov 15	Community Ecology	Ch. 54	Fuhrman	32
Nov 17	Community Ecology	Ch. 54	Fuhrman	33
Nov 20	Ecosystems	Ch. 55	Fuhrman	34
Nov 22	Thanksgiving holiday			
Nov 24	Thanksgiving holiday			
Nov 27	Ecosystems	Ch. 55	Fuhrman	35
Nov 29	Conservation Biology	Ch. 56	Fuhrman	36
Dec 1	Conservation Biology	Ch. 56	Fuhrman	37
Dec 11	4TH EXAM (non-cumulative FINAL)(8-10 AM)			Last Exam

NOTES: * Indicates chapters that students should read and/or review, especially if they have little or no prior familiarity with genetics. This syllabus may be subject to minor changes, which will be announced in class.

NOTES: Professors' lectures will generally be in person, unless university health and safety policies require resumption of online zoom lectures. All lectures are supplemented with PDF or PowerPoint documents posted in advance for download on the class web site (<https://blackboard.usc.edu/>). The lecture files will generally be available a few days prior the respective lecture under *Course Documents*.

This syllabus may be subject to minor changes, which will be announced in class & posted on Blackboard. Again, it is YOUR RESPONSIBILITY to check the <https://blackboard.usc.edu/> website frequently.

Please check your grades on Blackboard frequently (on your *My USC* home page click on *View Grades* in the *Tools* box); all corrections to grades must be completed PRIOR to the lecture final. Please notify your TA and the laboratory manager of the error and follow-up that it is corrected in a timely manner.

Please note your final exam schedule as soon as soon you can! You must have 3 or more documented final exams on the same day to warrant a final exam day change. If you have the required 3 finals on the same day, bring your documentation to the laboratory manager for approval in the beginning of the semester.

Please consult the Course Contract for further information on switching laboratories, exams, and how to handle class before the big game, holiday, etc.

This Syllabus may change – please check Blackboard regularly. Significant changes will also be announced.

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.