

## Draft BISC 315L Syllabus

### Instructor:

Dr. Julie Hopper

**Office Hours:** By appointment

*Via zoom or an outdoor space*

**Email:** [juliehop@usc.edu](mailto:juliehop@usc.edu)

## Introduction to Ecology, Fall 2021

### Teaching Assistant:

TBD

**Office Hours:** TBD

**Email:** TBD

**Required Textbooks:** **Bowman, W.D and Hacker S.D. (2020) ECOLOGY (5<sup>th</sup> Ed)** Oxford University Press.  
<https://global.oup.com/ushe/product/ecology-9781605359212?cc=us&lang=en&>  
*Available at USC bookstore.*

**Course Website:** <https://blackboard.usc.edu>  
(lecture files, course announcements, assignments, tests, additional readings, grades etc.)

**Lecture:** M/W **2:00 - 3:20pm (KAP 147)\*** *Remote lecture options pending interest/need*

**Lab:** M **3:30 - 6:20pm (ZHS 469)**

### Course Overview:

**Welcome! You have come to the right place if you are in search of an educational adventure.** Ecology is the study of the relationships among living organisms, including humans, and their physical environment. This course will introduce you to a broad spectrum of ecological research across terrestrial, freshwater and marine biomes, and the diverse organisms that inhabit these biomes. Focal components of the course will be discussed in context to current day global change and include: **1) physiological ecology, 2) evolutionary ecology, 3) behavioral ecology, 4) population and community ecology, and 5) ecosystem ecology.**

In this class, you will be introduced to the ideas and methods of ecological research that help us answer questions about how ecological communities and ecosystems function and how disturbance (in a variety of forms) can alter ecological communities and ecosystems. Material will build on the skills you have acquired in other biology or sciences classes. You will also be introduced to concepts in ecological theory and modeling. The laboratory component of this course will emphasize experimental design, data collection, analysis and visualization (using R), and written and oral scientific communication. **Myself and the TA will teach you everything you need to know in R (no prior experience needed).** In addition each student will build upon their skills in scientific literacy by researching and summarizing peer-reviewed research articles in the scientific field of ecology.

### Course Objectives are to:

- Interpret and summarize scientific literature <sup>[L]</sup><sub>[SEP]</sub>
- Describe ecological processes and theories
- Relate ecological theories to current-day questions and problems <sup>[L]</sup><sub>[SEP]</sub>
- Design ecological experiments around those questions <sup>[L]</sup><sub>[SEP]</sub>
- Summarize and analyze data using statistics in R to aid in answering ecological questions <sup>[L]</sup><sub>[SEP]</sub>
- Communicate science through written scientific reports and oral presentations <sup>[L]</sup><sub>[SEP]</sub>

**Course Communication:** In person or zoom office hours with the instructor or TA can be arranged via email. Prior to making a request to meet about course materials, exams or deadlines, be sure to review the most recent version of the syllabus on Blackboard. Postings on Blackboard (<https://blackboard.usc.edu>) will be the official source for announcements, course materials, lecture notes, possible exam/quiz material, grade postings and general discussions. **Please notify myself or the TA if you have any problems accessing Blackboard by the second day of class.** It is the student's responsibility to notify the TA or Instructor ASAP in the event of any mistakes, so please check your scores on Blackboard weekly. Due to the complex nature of COVID-19 as well as planning and executing field tips and laboratory exercises, changes may occur to the published schedule. Notifications will always be sent through Blackboard. **Students are responsible for any information sent to their USC email or posted on BB, and thus should check these accounts frequently.**

**DRAFT SCHEDULE:** All assignments will be detailed online on BlackBoard  
*In-class activities/questions/reflections are not listed in the below schedule*

Date	Activity	Readings /Assignments
M Aug 23	Lec 1 Introduction to Ecology and BISC315 <b>Lab 1 (short) Introduction and Overview</b>	Chapter 1
W Aug 25	Lec 2 Climate and Species Distributions	Chapters 2-3
M Aug 30	Lec 3 Ecophysiology and Adaptations <b>Lab 2 The Scientific Method and Cricket Behavior Lab</b>	Chapters 4-5 <b>HW#1 Topic due</b> Lab reading + Qs on BB
W Sep 1	Lec 4: <b>Ecophysiology- Guest Lecture</b>	Chapter 6
M Sep 6	<b>Labor Day No Class or Lab</b>	NO CLASS or LAB
W Sep 8	Lec 5: Evolution, Natural Selection and Speciation	Chapter 7
M Sep. 13	Lec 6: Speciation and Extinction cont. + Life History Strategies <b>Lab 3: Cricket Behavior and Data Analysis in R</b>	<b>HW #2 Bibliography due</b>
W Sep 15	Lec 7 Behavioral Ecology: Mating Systems and Sexual Selection	Chapter 8
M Sep 20	Lec 8: Behavioral Ecology: Altruism, Cooperation and Foraging <b>Lab 4: Insect Ecology and Diversity Survey</b>	<b>Lab 3 post-wksht due</b> <b>Lab 4 pre-wksht due</b>
W Sep 22	Lec 9 Population Abundance, Distribution and Dynamics	Chapters 9-10
M Sep 27	Lec 10 Population Growth & Life Tables <b>Lab 5: Insect Diversity: Methods and Analysis Lab</b>	Chapter 11 Post Lab #5 wksht due
W Sept 29	<b>Midterm @ 2PM</b>	<b>Midterm</b>
M Oct. 4	Lec 11: Community Ecology: Competition & Coexistence <b>Lab 6: Insect Diversity: Data management and Analysis in R</b>	Chapter 14
W Oct. 6	Lec 12: Community Ecology: Symbioses- Parasitism	Chapter 13
M Oct 11	<b>Lab 7: Field Trip to the Ballona Wetlands</b> Bus leaves UPC at 2pm, returns ~ 6:30 PM	<b>Lab 6 Result summary</b> <b>+ Lab7 field datasheet</b>
W Oct 13	Lec 13 Community Ecology: Facilitation & Symbioses- Mutualism & Commensalism	Chapter 12, <b>Reading-BB</b>
M Oct 18	Lec 14: Community Ecology: Herbivore-Plant Interactions <b>Lab 8: Ballona Wetlands-Parasites as Bioindicators</b>	Chapters 16 and 17
W Oct 20	Lec 15: Community Ecology: Predation and Food webs	Chapter 12 <b>HW 3</b> <b>Outline Due + Meetings</b>
M Oct 25	Lec 16: Community Ecology: Population Regulation, Biotic Resistance & Biological Control <b>Lab 9: Ballona Wetlands -Analyzing Plant Biodiversity</b>	Chapter 24
W Oct 27	Lec 18: Biogeography, Species Diversity and Conservation	Chapters 18-19, 23-24
M Nov 1	<b>Lec 20: Fire Ecology</b> <b>NO LAB – substitute Wednesday for Monday’s field trip</b>	Reading on BB
W Nov 3	<b>Full Day Lec/Lab 10: Intertidal Field Trip-Abalone Cove</b> Bus leaves UPC at 2pm, returns ~ 6:30 PM (Low tide @ 3pm)	Lab Reading on BB <b>Lab 10 Field trip wksht</b>
M Nov 8	<b>Lec 19: Microbial Ecology – Guest Lecture</b> <b>Lab 12: Assistance on Data Analysis and Project Summaries</b>	Reading on BB

Date	Activity	Readings /Assignments
W Nov 10	Lec 21 Global Change: Species Range Expansions and Invasions	Chapter 24
M Nov 15	<b>Lec 22: Introduction to Scientific Posters</b> <b>Lab 13: Assistance on Data Analysis and Posters</b>	
W Nov 17	<b>Lec 23: Assistance on Data Analysis and Scientific Posters</b>	<b>Posters due for Printing by Friday</b>
M Nov 22	<b>Lec 24 +Lab: Poster Presentations</b>	<b>Poster Presentation+ Lab Notebooks due</b>
W Nov 24	<b>No Class + Remote Classes and Exam after Thanksgiving Break</b>	<b>Happy Thanksgiving!</b>
M Nov 29	Lec + Lab time: <b>Scientific Lit Review Presentations</b> + <i>Course Evaluations as a break in the middle</i>	<b>Zoom Lecture-Lab Presentations (1<sup>st</sup> group) + Slides due</b>
W Dec. 1	Lec 23: <b>Scientific Lit Review Presentations continued</b>	<b>Zoom Lecture Presentations (2<sup>nd</sup> group)</b>
<b>M Dec. 6</b>	<b>Final Exam 4 PM California Time via Respondus on BB</b>	<b>Remote Final Exam</b>

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

Lecture Exams and Assignments	pts	Lab Assignments	pts
<b>Midterm and Final Exams</b>	240	<b>Cricket Behavior (Lab 2-3)</b>	
		Pre-Lab and Post-Lab worksheets	30
		<b>Insect Ecology (Labs 4-6)</b>	
<b>Scientific Lit Review Project</b>		Pre and Post-Lab Worksheets	30
HW# 1 – Sci.Lit Review Topic Selec.	5	Insect Lab Result Summary (Group)	30
HW# 2 –Sci. Lit Review Bibliography	30	<b>Ballona Wetlands (Labs 7-9)</b>	
HW# 3 – Sci. Lit Review Outline & Meeting	15	Field Trip Dataset Entry	5
Scientific Lit Review Presentations	40	Pre and Post Lab worksheets	20
Scientific Lit Review Slides	10	Result Summary (Group)	30
		<b>Intertidal Ecosystems (Lab 10)</b>	
<b>Extra Credit (Safety waivers)</b>	3	Fieldtrip Worksheet	10
		<b>Lab Notebook</b>	15
		<b>Poster Presentation</b>	100
<b>TOTAL (Not including extra credit)</b>			<b>610</b>

### Exams:

The lecture portion of this course will include 1 Midterm and 1 Final. Exams may include multiple choice questions, fill-in answers, definitions, T/F, short answers, and short or long essays. Material will be drawn from lectures, reading, and assignments. **Make-Up Policy:** If there is a conflict with an exam, you **must** email the instructor *2 weeks in advance* to see if alternate arrangements can be made. Otherwise, **make-up exams will not be given except in extreme emergencies.** If you have an emergency, you must notify us before the exam.

**Assignments:** Each assignment will be carefully described via Blackboard and discussed briefly in class. Unless specified otherwise, all assignments will be submitted through Blackboard via “turnitin” **by 1:50 PM on the due date (there is a 5 min grace period, and thereafter 20% will be deducted, and again for every 24 hour period). For the lab activities/questions/reflections: I will specify the requirements for each of these assignments before or during the laboratory time period.** You should be able to finish these during class time.

**Regrading Policy:** If you feel that an error was made in a grade, you need to: 1) Check the posted answer key, 2) Prepare an email statement explaining why you feel your grade was incorrect, and 3) submit this along with a re-grade request to your TA (and cc myself) within one week of the time the examination or assignment was returned to you. Resubmitted exams may be fully re-graded 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).

**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 that the letter is delivered to the Instructor or TA early in the semester, by the third lecture of the semester.** DSP is located in STU 301 and is open from 8:30 a.m. to 5:00 p.m., Monday through Friday. If a student’s approved accommodation is limited to extra time on examinations, the teaching staff of BISC 315L will provide the accommodation. For other accommodations, students must make prior arrangements with the DSP office 2 weeks before the exam date. For more information, visit the [http://sait.usc.edu/academicssupport/centerprograms/dsp/home\\_index.html](http://sait.usc.edu/academicssupport/centerprograms/dsp/home_index.html) or call DSP at 213-740-0776.

## **POLICY ON MISSED LECTURE EXAMS, QUIZZES, ON-CAMPUS LABS, OR LAB EXAMS**

### **UNPLANNED ABSENCES:**

**You may be excused from exams or labs only in the event of a documented illness or emergency as outlined by university policy or approved religious holiday (SCampus; <https://policy.usc.edu/student/scampus/>).** If you miss a class or lab exam, quiz or graded activity due to medical illness you must present a valid medical excuse to the TA or Instructor within 48h of the missed examination, lab or quiz. The excuse cannot be to attend a dental appointment, a conference, or other similar reasons. The reason for missing an examination or quiz must be of a medical nature or totally unavoidable (e.g., a verified automobile collision on the day and time of the examination). An invalid excuse, or the excuse turned in late, will result in a score of zero for the activity missed.

### **PLANNED ABSENCES:**

Students who wish to miss an examination/class 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 emailed to the TA and Dr. Hopper at least 2 weeks in advance of an absence.

## **LABORATORY PERFORMANCE GUIDELINES**

Laboratory activities will include outdoor activities both on campus and off campus, bench side experiments, and computer-based modeling activities. These activities will emphasize how ecologists test their ideas through quantitative observations, models, and manipulative, controlled, and replicated experiments. Instructions for assignment submission will be provided at the time of each assignment. **You are encouraged to exchange contact information with your fellow students early on to develop a collaborative support network amongst your peers. You will need to read and sign the field and lab-safety guide, and the waiver that is provided on blackboard before participating in lab/field activities. Communication is key, so please keep myself and the TA posted on any obstacles you are facing.**

**1. Attendance and Tardiness: You are required to attend all lecture and lab periods-** exceptions will only be made in extreme cases (in which you will need to notify us ahead of time with a valid excuse). For several of the labs and field trips, you will need to read material, watch any pre-recorded lectures and complete required worksheets prior to coming to class. Any unexcused absences will seriously affect your evaluation. Come to class

on time, this is especially critical for field trips. You will lose points for being absent or tardy. **You also need to remain with the class for the entire time or until excused by your instructor.**

2. **Behavior.** Abide by all guidelines in the lab and field safety guide that accompanies this course. You will need to wear lab safety gear when noted by the instructor, and you will always need to wear closed-toe shoes and clothing that covers your legs for the labs/field trips. Treat the environment and all animals (including people) and plants with respect. Students will be held to all university safety policies related to COVID-19. At the end of the lab session, return all supplies to their proper place, and clean your work area. Check with your instructor before leaving. Points will be deducted for any violation of safety rules, improper behavior, inability to contribute fully to group projects, leaving your space messy, poor effort, etc. **Your degree of participation counts in your grade.**

3. **Work ethic:** Students are expected to have read through any posted lab materials (on BB) prior to the start of lab and lecture. Pre-Lab quizzes may be given, and occasionally worksheets will need to be completed and turned in before the start of lab or at the end of lab. Students will be asked to maintain a course-specific lab notebook (drawings, observations, calculations) that may be supplemented by worksheets or computer databases. This notebook should be brought to all labs. The TA may ask to see the lab notebook at any time during the semester. Depending on the lab, assignments may be completed entirely during the lab period, may be assigned as homework, or may span multiple lab periods. If you are unsure of what to include in your lab notebook, just ask the TA.

4. **Final presentation:** Each student will be required to choose an ecological topic and review the topic in an oral presentation during the last lecture/lab period of the semester (**via zoom**). Each topic must be unique and must be approved by the TA or Professor. Detailed instructions on the presentation, including how points will be assigned, will be provided in class and posted on Blackboard.

### Academic Conduct and Support

**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, [policy.usc.edu/scientific-misconduct](http://policy.usc.edu/scientific-misconduct).

Please review the **USC Code of Conduct** page at: <https://sjacs.usc.edu/students/scampus/>

**You are expected to abide by these codes of conduct, in addition to those outlined below** (from WMSC):

- Treat each other with dignity, respect and kindness
- Support each other’s growth and development
- Respect and welcome people’s diverse backgrounds and experiences
- Protect and preserve the natural environment and all of its inhabitants
- Do not abuse or misappropriate university facilities and resources
- Do not intentionally disrupt research projects
- Do not compromise your safety or the safety of others
- Adhere to USC’s [Drug-Free Campus Policy](#)
- Report behaviors and incidents that violate codes of conduct

### The University, myself and the TA will not tolerate:

- Exclusion, discrimination, any form of harassment including unwanted verbal attention, unwanted touching, intimidation or other threat, aggression, retaliation, unwelcome jokes, or disparaging remarks. Note that constructive criticism is important and appropriate, but disrespectful or demeaning comments and other micro-aggressions are unacceptable.

**Academic Support Systems:** Need to do research but don't know where to start? Not sure how to cite a source in your bibliography? Ask a librarian! <http://libguides.usc.edu/>.

The **Kortschak Center for Learning and Creativity** provides customized support services to help students transition into college and achieve their academic goals. <https://kortschakcenter.usc.edu/>

### **IT Support Systems**

*For Zoom or general IT USC Support:* Phone: (24/7): 213-740-5555; Email [consult@usc.edu](mailto:consult@usc.edu)

*For Blackboard Support:* Phone: 213-740-5555 (option 2, assistance 24/7) [blackboard@usc.edu](mailto:blackboard@usc.edu)

### **Student Support Systems:**

*USC Student Basic Needs:* <https://studentbasicneeds.usc.edu/>

*Counseling and Mental Health - (213) 740-9355 – 24/7 on call* [studenthealth.usc.edu/counseling](http://studenthealth.usc.edu/counseling)

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

*National Suicide Prevention Lifeline - 1 (800) 273-8255 – 24/7 on call* [suicidepreventionlifeline.org](http://suicidepreventionlifeline.org)

Free & confidential emotional support to people in suicidal crisis or emotional distress

*Relationship and Sexual Violence Prevention Services (RSVP) - (213) 740-9355(WELL), press “0” after hours – 24/7 on call* [studenthealth.usc.edu/sexual-assault](http://studenthealth.usc.edu/sexual-assault)

Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

*Office of Equity and Diversity (OED) - (213) 740-5086 | Title IX – (213) 821-8298* [equity.usc.edu](http://equity.usc.edu), [titleix.usc.edu](http://titleix.usc.edu)

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*

[usc-advocate.symplicity.com/care\\_report](http://usc-advocate.symplicity.com/care_report) Avenue to report incidents of bias, hate crimes, and microaggressions to the Office of Equity and Diversity | Title IX for appropriate investigation, supportive measures, and response.

*The Office of Disability Services and Programs - (213) 740-0776* [dsp.usc.edu](http://dsp.usc.edu)

Support and accommodations for students with disabilities. Services include assistance in providing readers/notetakers/interpreters, special accommodations for test taking needs, support for individual needs, etc.

*USC Campus Support and Intervention - (213) 821-4710* [campussupport.usc.edu](http://campussupport.usc.edu) Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

*Diversity at USC - (213) 740-2101* [diversity.usc.edu](http://diversity.usc.edu): Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school and various resources for students.

*USC Emergency - UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call* [dps.usc.edu](http://dps.usc.edu), [emergency.usc.edu](http://emergency.usc.edu)

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) 442-120 – 24/7 on call* [dps.usc.edu](http://dps.usc.edu)

Non-emergency assistance or information.

*Office of the Ombuds - (213) 821-9556 (UPC) / (323-442-0382 (HSC)* [ombuds.usc.edu](http://ombuds.usc.edu)

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 concerns.