



## **BISC 305 Statistics for Biological Sciences**

**Units:** 4

**Summer 2022 Semester**

**Lecture:** Mondays, Tuesdays, Wednesdays, and Thursdays,  
10:00am – 12:05pm

**Location:** RRI 301

**Discussion:** Thursdays, 1:00 – 1:50pm in RRI 301

**Instructor:** Peter Calabrese

**Office:** RRI 404B

**Office Hours:** Mondays and Wednesdays, 12:10 – 1:00pm,  
or by appointment

**Contact Info:** [petercal@usc.edu](mailto:petercal@usc.edu), 213-740-2434

For office hours, I will be in my office and I will also be on Zoom (<https://usc.zoom.us/j/4898518195>). It is up to you if you want to meet in person or online

**Teaching Assistants:**

TBD

**Students are expected to comply with all aspects of USC's COVID-19 policy. Failure to do so may result in removal from the class and referral to SJACs. Do not come to class if you are sick or test positive for COVID-19: notify me as soon as possible and we will make accommodations.**

### **Course Description**

Statistics for Biological Sciences is an introductory course in statistics addressed to students in the life sciences. The course uses real data from life sciences. Understanding statistics is essential for studying modern biology.

### **Learning Objectives**

The learning objective is to illustrate statistical reasoning in biological science and medicine. The students will learn probability models, experimental design, statistical analyses, and interpretation of results. In addition, students will be introduced to R (a free computer program for statistical computing and graphics).

**Prerequisite(s):** none

**Co-Requisite(s):** none

**Concurrent Enrollment:** none

**Recommended Preparation:** none

### **Course Notes**

This course can be taken either for a letter grade or for credit/no credit. Lectures will be in-person, and simultaneously on Zoom (and recordings will be made). Lecture slides will be posted on Blackboard.

### **Technological Proficiency and Hardware/Software Required**

Students will be introduced to R (a free computer program for statistical computing and graphics), so students will need a computer. In addition, students will need a calculator (any type).

### **Required Readings and Supplementary Materials**

*Statistics for the Life Sciences* by M.L. Samuels, J.A. Witmer and A. Schaffner. Prentice Hall, 5th Edition. This textbook can be purchased at the campus store.

### **Description and Assessment of Assignments**

There will be homework due every Tuesday and Thursday. There will be two R projects. There will be quizzes on some Thursdays. There will be one midterm exam and one cumulative final exam.

## Grading Breakdown

Assessment Tool (assignments)	Points	% of Grade
Homework		20
Quizzes		10
R projects		10
Midterm Exam		20
Final Exam		40
<b>TOTAL</b>		100

### Assignment Submission Policy

Homework and R projects will be submitted on Blackboard. Quizzes and Exams will be “take home” and will also be submitted on Blackboard.

### Grading Timeline

Homework, quizzes, R projects, and exams will be graded within one week of submission. Grades will be entered on Blackboard.

### Additional Policies

You can work together on the homework (every student must submit their own assignment). You cannot work together on the quizzes or exams. A 50% grade deduction will be imposed for late homework, and no homework later than one week will be accepted. All examinations will occur as scheduled: there will be no make-up examinations. Note particularly that university regulations strictly regulate the final examination date. The professor reserves the right to make changes to the syllabus; these changes will be announced as early as possible so that students can adjust their schedules.

## Course Schedule: A Weekly Breakdown

	Topics/Daily Activities
<b>Week 1</b>	Chapters 1 and 2
<b>Week 2</b>	Chapters 3, 4, and an Introduction to R
<b>Week 3</b>	Chapters 5 and 6
<b>Week 4</b>	Chapters 7, 8, and Midterm Exam
<b>Week 5</b>	Chapters 9 and 10
<b>Week 6</b>	Chapters 11 and 12
<b>Week 7</b>	Review and Final Exam

### Important Dates:

**Monday, May 30 is a University Holiday (Memorial Day) so there will not be class**

**Tuesday, June 7 will be the Midterm Exam**

**Tuesday, June 14 the 1<sup>st</sup> R Project is due**

**Monday, June 27 the 2<sup>nd</sup> R Project is due**

**Tuesday, June 28 will be the Final Exam**

## Statement on Academic Conduct and Support Systems

### Academic Conduct:

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](https://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](https://policy.usc.edu/scientific-misconduct).

### Support Systems:

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

Free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.

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

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

*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, chronology, participation, 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.