

Transfer Exploration Seminar: Statistics & Data Science

PSTAT 188

Summer 2026 Session B

Tu-Th 2 - 3:05pm, Phelps 1513

Description

Introduces students to foundational programming concepts for data analysis and visualization and fundamental concepts in probability and mathematics (random variables, set theory, simulations, series and integration), serving as preparation for follow-up major gateway courses in PSTAT. The material is organized into distinct modules and includes a brief introduction to the data science pipelines, exploratory data analysis, including tidy data framework, data visualization and data science ethics. We will use a combination of Python and R throughout the 6 week course, demonstrating basic syntax and functionality of both languages for data manipulation, visualization and analysis. Students will also explore research areas in the discipline, departmental and campus study resources, undergraduate research opportunities, and diverse career tracks available to Statistics & Data Science graduates.

Student Learning Outcomes

By the end of the course, students will

- Gain an understanding about the PSTAT department programs, faculty, student clubs, and research opportunities
- Have experience with data analysis pipelines and data visualization tasks in R and Python,
- Have a basic understanding of the fundamental concepts in probability theory.

This course provides a brief introduction to R, Python, and fundamental concepts in probability theory for follow-up major gateway courses in statistics and data science.

Location:

Tuesdays and Thursdays at 2:00PM - 3:05PM in Phelps 1513.

Link for Zoom lecture on Thursday 8/6/26:

<https://ucsb.zoom.us/j/88010063234?pwd=rlopNUZCimclfgLRSMQ9Ko4ikaH4Df.1>

Meeting ID: 880 1006 3234

Passcode: 152468

Instructors

1. Dr. Mike Ludkovski
 - a. Email: ludkovski@pstat.ucsb.edu
 - b. Office: SH 5520
2. John Inston
 - a. Email: johninston@ucsb.edu
 - b. Office: SH 5431T

Office Hours

Prof. Ludkovski: Thursdays 3:15PM - 4:15PM in SH 5520

John Inston: Tuesdays 3:15PM - 4:15PM in SH 5431T.

***Note:** Due to office renovations in Week 1 John's OH will be held in StatLab SH 5421 at the same time.*

Course Assignments and Grading

Short assignments will be due on Canvas each week on Friday.

There will be NO Final exam for the course (nor any other tests).

Grading will be based on the completion of weekly assignments and in-lecture discussion prompts/activities.

Course Format:

Our course will have 2 instructors, each teaching 6 lectures.

Each week for 6 weeks, you will be required to

1. Attend and participate in the lecture on Tuesday and Thursday. Make sure to bring your laptop to each lecture, most days you will have hands-on tasks to do in-class.
2. Complete and upload a written assignment to Canvas by Friday
3. Attend office hours as necessary.

The course will follow the schedule below:

1. **Week 1**
 - a. **Lecture 0:** Introductions and Orientation
Lecture 1: Positron and Quarto.
Tuesday 8/4 in person.

- b. **Lecture 2:** PSTAT at a glance - Understanding your department.
Thursday 8/6 Zoom (usual 2pm):
<https://ucsb.zoom.us/j/88010063234?pwd=rlopNUZCimclfgLRSMQ9Ko4ikaH4Df.1>
- c. *Assignment 1 due on Canvas Friday 8/07/2026*

2. **Week 2**

- a. **Lecture 3:** Data Science Fundamentals
Tuesday 8/11 in person
- b. **Lecture 4:** Tidyverse I - Data preparation in R
Thursday 8/13 in person
- c. *Assignment 2 due on Canvas Friday 8/14/2026*

3. **Week 3**

- a. **Lecture 5:** Tidyverse II - Visualizations with ggplot2
Tuesday 8/18 in person
- b. **Lecture 6:** Data Processing and Visualization in Python I
Thursday 8/20 in person
- c. *Assignment 3 due on Canvas Friday 8/21/2026*

4. **Week 4**

- a. **Lecture 7:** Data Processing and Visualization in Python II
Tuesday 8/25 in person
- b. **Lecture 8:** Ethical Data Science
Thursday 8/27 in person
- c. *Assignment 4 due on Canvas Friday 8/28/2026*

5. **Week 5**

- a. **Lecture 9:** Probability Fundamentals I
Tuesday 9/1 in person
- b. **Lecture 10:** Probability Fundamentals II
Thursday 9/3 in person
- c. *Assignment 5 due on Canvas Friday 9/4/2026*

6. **Week 6**

- a. **Lecture 11:** Ethics of Artificial Intelligence
Tuesday 9/8 in person
- b. **Lecture 12:** Probability Fundamentals III
Thursday 9/10 in person
- c. *Assignment 6 due on Canvas Friday 9/11/2026*

Academic integrity

Please maintain integrity in learning. Your work in the course must be your own. Any form of plagiarism, cheating, misrepresentation of individual effort on assignments and assessments, falsification of information or documents, or misuse of course materials compromises your own learning experience, that of your peers, and undermines the integrity of the UCSB community. Any evidence of dishonest conduct will be discussed with the student(s) involved and reported to the Office of Student Conduct. Depending on the nature of the evidence and the violation, penalty in the course may range from loss of credit to automatic failure. For a definition and examples of dishonesty, a discussion of what constitutes an appropriate response from faculty, and an explanation of the reporting and investigation process, see the [Office of Student Conduct page on academic integrity](#)

Accommodations

Reasonable accommodations will be made for any student with a qualifying disability. Such requests should be made through the Disabled Students Program (DSP). More information, instructions on how to access accommodations, and information on related resources can be found on the [DSP website](#). Remote learning may present unique accommodation needs requiring additional flexibility; students receiving accommodation via DSP are invited to discuss this with the instructor if desired.

Student Resources

Any students in need are encouraged to make use of the following resources.

- Financial Crisis Response Team
<https://food.ucsb.edu/about/committees/financial-crisis-response-team>
- Food Security and Basic Needs (Food, Housing, Technology) Advising Center
<https://food.ucsb.edu/resources/basic-needs-advocates>
- Undocumented Student Services <http://www.sa.ucsb.edu/dreamscholars/home>
- Campus Advocacy, Resources, and Education (CARE) <https://care.ucsb.edu/>
24/7 Confidential Phone: (805) 893-4613
- The Trevor Project <https://www.thetrevorproject.org/>
- Counseling and Psychological Services (CAPS) <https://caps.sa.ucsb.edu/>
24/7 Counselors: (805) 893-4411, press 2