

# Keck School of Medicine of USC

## PM 516b: The Practice of Biostatistical Consulting

Units: 1  
Term: Fall 2023  
Location: ONLINE  
Instructor: Trevor A. Pickering (tpickeri@usc.edu)

Office hour times and locations will be posted on Blackboard.

## Course Overview

### Course Description

This course serves to expose students to the practice of biostatistical consulting. It will help statisticians and data analysts develop the necessary skills for successfully interacting with non-statistician collaborators. Under faculty supervision, the student will meet with an investigator and independently conduct statistical analysis throughout the semester.

### Learning Objectives

Through this course, students will gain additional experience in statistical consulting. Students will:

- Demonstrate the consulting principles learned in PM516a
- Improve their skills when determining a statistical problem and analysis plan
- Use statistical tools they have learned in their program to produce a meaningful analysis
- Effectively communicate the results of their analysis in a statistical report
- Improve the quality of their statistical interactions with non-statistician collaborators
- Understand how to work with individuals from diverse content domains

### Course Preparation

Prerequisites PM516a.

Recommended Preparation The course assumes a familiarity with basic statistics and regression analysis

## Course Requirements

### Communication

Blackboard (slides, data sets, assignment submission), USC e-mail (communication)

### Required Textbook

There is no required textbook. Readings will be assigned as needed.

### Required Software

Students must have proficiency in at least one statistical program, but may choose which use for this course (e.g., R, SAS, Stata, SPSS)

## Assessments

### Grading Breakdown

Category	Points
Instructor Meetings	20ea x 2
Progress Report	20
Final Project	40
Total	100

### Late Submission Policy

Students are expected to work independently and adhere to all deadlines. Reports will be expected by collaborators on the dates promised, and late reports will result in a penalty for every day submitted past the due date. Late final projects are not accepted except under verifiable extenuating circumstances.

### Description of Assessments

- Initial Problem** At the beginning of the semester the student will be assigned a statistical project to work on and will meet with the investigator. The student will determine the scope and appropriate timeline for the project.
- Meetings** Students will meet with the instructor and their collaborator(s) no fewer than twice during the semester to discuss issues related to planning and implementing the statistical analysis.
- Progress Report** There will be a progress report due midway through the course, providing an outline of the analysis report that will be presented.
- Final Project** The final project is an analysis report to address the researcher's question from the consultation.

## Alignment Grid

<b>Learning Objective</b> By the end of this course, students are expected to be able to:	<b>Learning Activities</b> The learning objective will be facilitated by:	<b>Assignment/Assessment</b> This learning objective skill is measured by:
Demonstrate the consulting principles learned in PM516a	Investigator meetings	Instructor meetings
Improve their skills when determining a statistical problem and analysis plan	Instructor meetings and feedback	Instructor meetings
Use statistical tools they have learned in their program to produce a meaningful analysis	Instructor meetings	Instructor meetings and self-guided practice
Effectively communicate the results of their analysis in a statistical report	Readings and class materials	Progress report and final report
Improve the quality of their statistical interactions with non-statistician collaborators	Investigator meetings	Instructor meetings
Understand how to work with individuals from diverse content domains	Investigator meetings	Investigator meetings

## Course Schedule

	Topic	Deliverable
<b>Week 1</b> M 8/21	<b>Review of Statistical Consulting Best Practices</b> Consulting with Clients SCS Brochure	
<b>Week 2</b> M 8/28	<b>Project Introduction</b>	Meet with Collaborator
<b>No Class</b> M 9/4	<b>Labor Day</b>	
<b>Week 3</b> M 9/11	<b>Meetings</b>	Instructor/Collaborator Meeting 1
<b>Week 4</b> M 9/18	<b>Meetings</b>	Instructor/Collaborator Meeting 1
<b>Week 5</b> M 9/25	<b>Meetings</b>	Instructor/Collaborator Meeting 1
<b>Week 6</b> M 10/2	<b>Meetings</b>	Instructor/Collaborator Meeting 1
<b>Week 7</b> M 10/9	<b>Statistical Reports</b> Writing an Effective Statistical Report	Progress Report Due
<b>Week 8</b> M 10/23	<b>Meetings</b>	Instructor/Collaborator Meeting 2
<b>Week 9</b> M 10/23	<b>Meetings</b>	Instructor/Collaborator Meeting 2
<b>Week 10</b> M 10/30	<b>Meetings</b>	Instructor/Collaborator Meeting 2
<b>Week 11</b> M 11/6	<b>Meetings</b>	Instructor/Collaborator Meeting 2
<b>Week 12</b> M 11/13	<b>Final Check-In</b>	Report Draft Due
<b>Week 13</b> M 11/20	<b>Meetings</b>	Final Report Meeting
<b>Week 14</b> M 11/27	<b>Meetings</b>	Final Report Meeting

## 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” <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, <http://policy.usc.edu/scientific-misconduct>.

### Support Systems:

*Student Counseling Services (SCS)* - (213) 740-7711 – 24/7 on call

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention. <https://engemannshc.usc.edu/counseling/>

*National Suicide Prevention Lifeline* - 1-800-273-8255

Provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week. <http://www.suicidepreventionlifeline.org>

*Relationship and Sexual Violence Prevention Services (RSVP)* - (213) 740-4900 - 24/7 on call

Free and confidential therapy services, workshops, and training for situations related to gender-based harm. <https://engemannshc.usc.edu/rsvp/>

*Sexual Assault Resource Center*

For more information about how to get help or help a survivor, rights, reporting options, and additional resources, visit the website: <http://sarc.usc.edu/>

*Office of Equity and Diversity (OED)/Title IX compliance* – (213) 740-5086

Works with faculty, staff, visitors, applicants, and students around issues of protected class. <https://equity.usc.edu/>

*Bias Assessment Response and Support*

Incidents of bias, hate crimes and microaggressions need to be reported allowing for appropriate investigation and response. <https://studentaffairs.usc.edu/bias-assessment-response-support/>

*The Office of Disability Services and Programs*

Provides certification for students with disabilities and helps arrange relevant accommodations. <http://dsp.usc.edu>

*Student Support and Advocacy* – (213) 821-4710

Assists students and families in resolving complex issues adversely affecting their success as a student EX: personal, financial, and academic. <https://studentaffairs.usc.edu/ssa/>

*Diversity at USC*

Information on events, programs and training, the Diversity Task Force (including representatives for each school), chronology, participation, and various resources for students. <https://diversity.usc.edu/>

*USC Emergency Information*

Provides safety and other updates, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible, <http://emergency.usc.edu>

*USC Department of Public Safety* – 213-740-4321 (UPC) and 323-442-1000 (HSC) for 24-hour emergency assistance or to report a crime

Provides overall safety to USC community. <http://dps.usc.edu>