Syllabus

Math 202: Biostatistics

Course Information

Term: Fall 2025

Instructor: Isaac Quintanilla Salinas

Email: isaac.qs@csuci.edu

Office Location: Marin Hall 2326

Office Hours:

- Tue/Thur 5-6 PM
- Wed 2-4 PM

Or by Zoom appointment.

Lecture:

Tuesday/Thursday 1:30 PM - 2:45 PM

Course Description

Critical reasoning using a quantitative and statistical problem-solving approach to solve real-world problems. Uses probability and statistics to describe and analyze biological data collected from laboratory or field experiments. Course will cover descriptions of sample data, probability and empirical data distributions, sampling techniques, estimation and hypothesis testing, ANOVA, and correlation and regression analysis. Students will use standard statistical software to analyze real world and simulated data. GenEd: 2

Learning Outcomes

- Prepare students for advanced courses in data-management and statistics
- Reason both inductively and deductively with quantitative information and data
- Use statistical software for complex statistical analysis of real-world and simulated data
- Empower students to apply computational and inferential thinking to address real-world problems
- Write the results of a statistical study and draw conclusion in reports

Textbook

Introduction to Modern Statistics (IMS)

Statistical Modeling (SM)

Course Grading

Category	Percentage
Participation	5%
Classwork	10%
Video Assignments	25%
Notebook Assignments	25%
Exam 1	15%
Exam 2	15%

Category	Percentage
Exam 3	15%

At the end of the quarter, course grades will be assigned according to the following scale:

A+	98 – 100	**B+**	87 – <90	**C+**	77 – <80	**D+**	67 – <70		
A	93 – <98	**B**	83 – <87	**C**	73 – <77	**D**	63 – <67	**F**	< 60
A–	90 - <93	**B-**	80 – <83	**C–**	70 – <73	**D–**	60 – <63		

Participation

Participation is based on short writing assignments conducted in class. There will be no make ups for these writing prompts.

Classwork Assignments

Classwork assignmets are designed to give you an opportunity to practice conceptual topics from the video assignments. The assignments will require you to program in R. The 3 lowest homework assignments will be dropped. Homework assignments will be due every Friday at 11:59 PM.

Notebook Assignments

Notebook assignments are designed to expand your statistical knowledge. These will be completed in Google Colab which can be accessed from Canvas. There is one notebook assignments every week that you can be completed during class time. Notebook assignments will be due on Thursday at 11:59 PM every week. The 3 lowest notebook assignments will be dropped.

Video Assignments

Videos are used to teach statistical concepts related to the course. Students are expected to watch at least one video a week. The videos are implemented using VoiceThreads. The 3 lowest video assignments will be dropped. Video assignments will be due every Sunday at 11:59 PM.

Exams

There will be three in exams. Exam #1 will be on September 29, 2025, Exam #2 will be on November 3, and Exam #3 will be on . While the exams are not considered cumulative, the material builds on each other. Developing a strong understanding of the material through out the course is important for your success. At the end of the semester, your lowest exam grade will be replaced by your median average of all 3 exam grades. This course will operate under a zero-tolerance policy. Talking during the time of the exam, sharing materials, looking at another students' exam, or not following directions given will be subject to the University's academic integrity policy.

Extra Credit

There will be **4** extra credit opportunities worth a total of 10% of your overall grade. (There are no make-ups for missed extra credit assignments!) More information will be provided on the extra credit assignments on a later date. Information on the extra credit can be found here.

Class Schedule

The following outline may be subject to change. Any changes will be announced in class.

Week	Topic	Readings	NB Due	Video Due
8/25	Welcome/Intro to Stats and R	SM 3		1
9/1	Data Generating Process	IMS 4	1	2
9/8	Categorical Data	IMS 5	2	3
9/15	Numerical Data	SM 11	3	4
9/22	Distribution Functions		4	
9/29	Exam 1/ Simple Linear Regression	IMS 7		5

Week	Topic	Readings	NB Due	Video Due
10/6	Simple Linear Regression	IMS 8	5	6
10/13	Multi Linear Regression	IMS 9	6	7
10/20	Logistic Regression		7	8
10/27	Model Prediction		8	
11/3	Exam 2/ Sampling Distribution	SM 12		9
11/10	Sampling Distribution	SM 13	9	10
11/17	Inference	IMS 24/26	10	11
11/24	Model Inference/ Holiday		11	
12/1	Traditional Statistics			
12/8	Exam 3			

Generative Artificial Intelligence Policy

The use of generative artificial intelligence (AI) in an ethical manner is permitted for this course.

Permitted Uses

You may use AI for:

- Obtain clarification
- Brainstorming ideas, examples, outlines, and strategies
- Generating questions for practice or exploration
- Identifying keywords or phrasing to match professional goals

Prohibited Uses

You may not:

- Submit AI-generated work
- Use AI to complete assignments, quizzes, exams, or other assessments meant to reflect only your own work
- Use AI to generate code

Any AI-generated work will receive a 0 in the class. Severe cases will be reported to Academic Misconduct.

You may not upload any course material to any AI platforms such as ChatGPT, Claude, Meta AI, and Google Gemini. Exceptions are allowed for DASS-approved services.

University Policies

1. **Academic Honesty**:

   Conduct yourself with honesty and integrity. Do not submit others' work as your own. For assignments and quizzes that allow you to work with a group, only put your name on what the group submits if you genuinely contributed to the work. Work completely independently on exams, using only the materials that are indicated as allowed. Failure to observe academic honesty results in substantial penalties that can include failing the course.

2. **Disabilities:**

   If you are a student with a disability requesting reasonable accommodations in this course, you need to contact Disability Accommodations and Support Services (DASS) located on the second floor of Arroyo Hall, via email accommodations@csuci.edu or call 805-437-3331. All requests for reasonable accommodations require registration with DASS in advance of need: https://www.csuci.edu/dass/students/apply-for-services.htm. Faculty, students and DASS will work together regarding classroom accommodations. You are encouraged to discuss approved.

3. **Emergency Procedure Notice to Students:**

   CSUCI is following guidelines and public orders from the California Department of Public Health and Ventura County Public Health for the COVID-19 pandemic as it pertains to CSUCI students, employees and visitors on the campus. Students are expected to adhere to all health and safety requirements as noted on the University's Spring 2023 Semester website or they may be subject to removal from the classroom.