

Psychology 010

Analysis of Psychological Data

Spring 2026

INSTRUCTOR

Meng (Chris) Qiu

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TEACHING ASSISTANTS

Ihnwhi Heo

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Aleksandr Ivanov

- Office: SSM 366
- Walk-In Hours: Monday, 3 PM to 5 PM (or by appointment)
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LECTURE AND LAB TIME/LOCATION

Lecture: TT 05:30 PM - 07:20 PM [Student Services Building, Room 170]

Lab Sections:

- Ihnwhi Heo
 - Section 03L: Monday, 04:30 PM - 05:20 PM [Glacier Point, Room 125]
- Madelin Jauregui
 - Section 02L: Monday, 03:30 PM - 04:20 PM [Administration, Room 350]
- Aleksandr Ivanov
 - Section 04L: Monday, 05:30 PM - 06:20 PM [Classroom and Office 1 Bldg, Room 279]
 - Section 05L: Monday, 06:30 PM - 07:20 PM [Classroom and Office 1 Bldg, Room 279]

COURSE DESCRIPTION

Psychology 010 addresses the statistical principles underlying psychological research. We will focus on descriptive and inferential statistical techniques and the manner in which they are employed in the design of psychological experiments and analysis of behavioral data. The goal of this course is only in part to offer a sequential presentation of some of the basic statistical techniques you might need for simple analyses of psychological data. More importantly, it is to teach the skill of thinking statistically and to foster a basic understanding that will enable the student to learn and understand analytic techniques independently.

PREREQUISITES

Successful completion of Psychology 001 or Cognitive Sciences 001 (with a grade C- or higher), and successful completion of Math 5 (with a grade of C- or higher) or equivalent. Also, students MUST be concurrently enrolled in a corresponding Psychology 10 lab section.

LAB SECTIONS

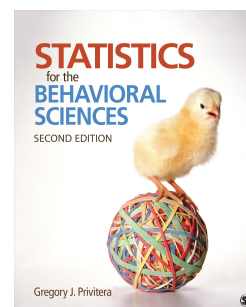
We will have a lab meeting each week (a separate course led by a TA). Lab meetings offer a small group setting where you can get help with material that you are uncomfortable with or are having trouble grasping.

RECOMMENDED TEXTBOOK

Privitera, G. J. (2014). *Statistics for the Behavioral Sciences* (2nd ed.). Los Angeles, CA: Sage.

Alternative book: Privitera, G. J. (2017). *Essential Statistics for the Behavioral Sciences* (2nd ed.). Los Angeles, CA: Sage.

You are free to use any edition of the book. Students who wish to solve additional problems are encouraged to use the study guide, as it is recommended for them.



ADDITIONAL MATERIALS

- A standard calculator—it should be able to perform basic calculations as well as square roots and exponents. Graphing calculators will NOT be allowed during quizzes or exams. *Note: Any devices with wireless capabilities will be prohibited during quizzes and exams!!*
 - **If you do not bring your calculator to class every day, you may not be able to take quizzes (i.e., you may earn a grade of zero).**
- Blank scratch paper can be brought to each quiz and exam. However, students will have to show TAs the paper to ensure it is blank before use.
- A device you can access CatCourses on. All in-class quizzes and exams will be completed via CatCourses. You must be present in class to take them.

THIS COURSE IS RELEVANT TO THE UC MERCED GUIDING PRINCIPLES BY TEACHING STUDENTS:

- Scientific Literacy: Given that the focus of this course is applied statistics, students will be taught various ways of presenting and analyzing statistical data. This knowledge will help them gain an understanding of scientific and quantitative information. They will be taught how to interpret scientific information and effectively apply quantitative tools to a variety

of applied contexts. Scientific literacy will be gained through in-class discussions, quizzes, homework assignments, interactive assignments in class, and exams.

- Decision Making: Students will participate in in-class discussions and complete assignments related to decision-making in the context of statistical analysis. They will be taught to evaluate, interpret, and use information effectively for critical analysis and problem-solving in the context of applied statistics.
- Ethics and Responsibility: Ethics in statistics will be covered through lectures and assignments. Students will be taught about ethical ways of examining and reporting trends in data.

COURSE LEARNING GOALS

- Become well acquainted with various statistical tests and measures.
- Understand and be able to communicate basic ideas in the discipline in a meaningful way by utilizing basic terms of the discipline.
- Become familiar with basic areas of application of psychological knowledge.
- Develop a rudimentary understanding of the way statistics are used (and misused) in popular culture.
- Understand the underlying concepts behind various statistical tests.
- Understand the reasoning processes used by the psychologist to arrive at particular conclusions regarding human behavior.

COURSE LEARNING OUTCOMES

Students will be able to:

- Understand various statistical tests and measures.
- Understand and be able to communicate basic ideas in the discipline in a meaningful way by utilizing basic terms of the discipline.
- Become familiar with basic areas of application of statistics.
- Understand the way statistics are used (and misused) in popular culture.
- Understand the underlying concepts behind various statistical tests.
- Understand the reasoning processes used by the psychologist to arrive at particular conclusions regarding human behavior.

PROGRAM LEARNING OUTCOMES

To support student success coherently across Psychological Sciences coursework, the Course Learning Outcomes help students to reach the following Psychological Sciences Program Learning Outcomes:

- Demonstrate that they understand the basic principles of and correctly interpret applications of the designs and methods that psychologists use to gather data;
- Show that they can understand and correctly interpret the statistical analyses psychologists use to analyze data.

COURSE ASSIGNMENTS

Grading is based on: 12 homework assignments, 12 in-class quizzes, 3 in-class exams, and 12 lab meetings.

- Homework assignments (15% of final grade):
 - Every Monday a homework assignment will be posted on CatCourses. The assignments are due the following Sunday by 11:59 pm via CatCourses. You may work in groups on the homework assignments if you like. However, you should be aware that the in-class quizzes will often be assessing the same material as the homework assignment. As a result, you should be sure that you are able to complete the assignment problems on your own. There will be a total of 12 homework assignments given throughout the semester and only the top 11 ones you performed the best on will count towards your final grade (i.e., there are two “freebies” built into the semester).
 - * There is a strict policy of **NO makeup homework assignments** throughout the semester also **NO late work will be accepted**.
- Monday quizzes (20% of final grade):
 - Quizzes will be administered most weeks during the semester (see course schedule for details). Problems will be presented that are similar to your homework assignment. You will be given 5-10 minutes (depending on the problem set) to complete the quiz. You will submit your answers in CatCourses, so you must have an electronic device that you can access CatCourses on. Your two (2) lowest quiz scores will be dropped from your final grade. There will be a total of 13 quizzes given throughout the semester and only the top 11 quizzes you performed the best on will count towards your final grade (i.e., there are two “freebies” built into the semester).
 - Note that there is no quiz during exam week. However, there IS a quiz in the lecture section held just after the exam, which will cover the last material covered right before the exam.
 - * There is a strict policy of **NO makeup quizzes** throughout the semester. Note that make-up quizzes are only considered if there are more than 2 (i.e., at least 3) excused absences approved by the professor. The purpose of giving you two “freebies” is to allow for missing up to three quizzes. Therefore, illness (etc) will not be an excuse to make up a quiz unless you have missed more than two (with all absences excused).
 - * **Students must work ALONE on quizzes**—see section on Academic Integrity for consequences of violations.
- Lab attendance (5% of final grade):
 - Each week you are required to attend your assigned lab section. Your TA will administer a worksheet in the lab meeting and you are to fill it out as instructed. You must turn in your worksheet to the TA before leaving class. Each person can turn in only 1 worksheet before leaving class (i.e., you cannot turn in a worksheet for a friend who is not attending the lab).
 - There will be 12 lab meetings held during the semester, and a worksheet will be given out at each session. However, only 10 of the 12 worksheets will count toward lab attendance. In other words, if you cannot attend up to 2 lab meetings during the semester, you will not be penalized.
- In-class exams (60% of final grade):
 - There will be 2 non-cumulative exams during the regular semester and 1 cumulative final exam (i.e., covering the entire semester’s material) during the final week. Exam material will come from the textbook and from lecture material. Each exam is worth 20% of your final grade.
 - Students must bring a device they can access CatCourses in order to take the exam.
 - * **Students must work ALONE on exams**—see the section on Academic Integrity for consequences of violations.

- * Make-up exams will be given to students who can demonstrate that they missed the exam due to the most extreme of circumstances.
- * If you miss an exam, you must notify the Professor at least 2 days in advance and schedule a make-up exam.
- * If you are sick or have another emergency on the day of the exam, you must notify the Professor as soon as possible.
- * Appropriate documentation **MUST** be provided before you can make up the exam and the ability to make up an exam is determined solely by the Professor on a case-by-case basis: I reserved the right to refuse make-up exams.
- * Note that depending on the circumstances of the make-up exam, I reserve the right to give a make-up that consists entirely of written problems in the place of multiple-choice items.

GRADES

Final grades for Psychology 10 (lecture course) and Psychology 10-D (discussion course) will be identical since the graded portions of each course are intertwined.

Category	Total Points	Letter Grade	Total Percentage
Exams (100 pts each)	300 pts	A	100-93%
Homework (10 pts each)	100 pts	A-	92.99-90%
In-class quizzes (10 pts each)	100 pts	B+	89.99-87%
Lab attendance (10 pts each)	110 pts	B	86.99-83%
Total	610 pts	B-	82.99-80%
		C+	79.99-77%
		C	76.99-73%
		C-	72.99-70%
		D+	69.99-67%
		D	66.99-63%
		D-	62.99-60%
		F	<60%

- Incomplete Grade in Course:
 - A grade of “I” (Incomplete) will be assigned only at the discretion of the instructor and only in the event of extraordinary circumstances. A written request must be filed and a written approval granted before the Incomplete may be taken.

USE OF CATCOURSES

All course material will be posted on CatCourses.

- All of the weekly homework assignments will be posted on CatCourses each Monday (unless otherwise specified). You can only submit an assignment ONCE, but you have an unlimited amount of time to work on it up until the due date.
- In addition, all in-class quizzes and exams will be held on CatCourses. You must bring a device to class each quiz/exam day in order to complete the assessment.
- If you have any difficulties with CatCourses (e.g., submitting homework assignments), please contact one of us immediately.

TUTORING OPPORTUNITIES

If attending lectures and lab sections, studying, and use of TAs is still not enough for you, there are some tutoring opportunities available on campus. The Bright Success Center Tutoring Program can be found at: learning.ucmerced.edu in the Kolligian Library Room 222 with Hours of Operation: Monday - Friday, 8:30am - 5:00pm.

ACADEMIC INTEGRITY

Students should be familiar with University policies on academic honesty. A general code of conduct for the University of California can be found at: www.ucop.edu/ethics-compliance-audit-services/compliance/standards-of-ethical-conduct.html.

- Basically, do not cheat or plagiarize. This will earn you a very uncomfortable meeting with the professor of the course and a **ZERO** on the exam/assignment.
- **There is NO exception to this rule!!**
- Students who are caught cheating on an in-class quiz and/or an exam will be **immediately** asked to leave the class. The cheating incident will be reported to the Undergraduate Dean of Students, and a zero will be given for the score of the quiz/exam.
- Note that this policy will be upheld equally for people trying to copy work and also for people trying to help others.
- If you have questions about this policy and/or the consequences listed above, please see the professor as soon as possible.

USE OF ELECTRONIC DEVICES IN CLASS

The use of wireless electronic devices (e.g., laptops, smartphones, iPods, etc.) during a regular class lecture is a privilege and not a right. If even a single student is being disruptive while texting, emailing, playing games, reading, on social media, etc. during class, then the entire class must put away all electronic devices for the remaining class session (including laptops). These devices can be used as learning tools (e.g., to take notes with or follow along on the slides), but any personal use of these devices is **strictly prohibited** during class time.

On quiz and exam days, an electronic device is needed to access the assessment in CatCourses. Be sure you bring a reliable and fully charged device.

STUDENTS WITH SPECIAL NEEDS

University of California, Merced is committed to creating learning environments that are accessible to all. If you anticipate or experience physical or academic barriers based on a disability, please feel welcome to contact me privately so we can discuss options. In addition, please contact Student Accessibility Services (SAS) at (209) 228-6996 or disabilityservices@ucmerced.edu as soon as possible to explore reasonable accommodations. All accommodations must have prior approval from Student Accessibility Services on the basis of appropriate documentation.

If you anticipate or experience barriers due to pregnancy, temporary medical condition, or injury, please feel welcome to contact me so we can discuss options. You are encouraged to contact the Dean of Students for support and resources at (209) 228-3633 or studentaffairs.ucmerced.edu/dean-students.

CLASSROOM CIVILITY

Each UCM student is encouraged to help create an environment during class that promotes learning, dignity, and mutual respect for everyone. Students who speak in inappropriate times, sleep in class, display inattention, take frequent breaks, interrupt the class by coming to class late, engage in loud or distracting behaviors, use cell phones or other electronic devices in class, use inappropriate language, are verbally abusive, display defiance or disrespect to others, or behave aggressively toward others could be asked to leave the class and be subjected to disciplinary action.

COURSE OUTLINE

****Note that the following schedule is subject to change without notice.**

****Note that it is the responsibility of the student to bring an electronic device, pencil, blank scratch paper, and class-approved calculator to class every Monday for quizzes and every exam day. Failure to do so may prevent the student from being able to complete the assessment (i.e., the student may receive a grade of zero for that assessment).**

Week	Date	Day	Topic	Homework	Chapter	Quiz
1	1/19	Mon	Martin Luther King Jr. Holiday			
	1/20	Tue	Introduction			
	1/22	Thu	Statistics in Research	HW1 Assigned	1	
	1/25	Sun		HW1 Due		
2	1/26	Mon	Lab 1: Statistics in Research	HW2 Assigned	2	
	1/27	Tue	Frequency Distribution		3	1
	1/29	Thu	Central Tendency			
	2/1	Sun		HW2 Due		
3	2/2	Mon	Lab 2: Frequency Distributions & Central Tendency	HW3 Assigned		
	2/3	Tue	Variability		4	2
	2/5	Thu	Exam 1 Review			
	2/8	Sun		HW3 Due		
4	2/9	Mon	Lab 3: Exam 1 Review	HW4 Assigned		
	2/10	Tue	Exam 1			
	2/12	Thu	Probability		5	3
	2/15	Sun		HW4 Due		
5	2/16	Mon	Presidents Day Holiday	HW5 Assigned		
	2/17	Tue	Probability, Normal Distributions, and z Scores		6	4
	2/19	Thu	Probability and Sampling Distributions		7	
	2/22	Sun		HW5 Due		
6	2/23	Mon	Lab 4: Normal Distribution and Sampling Distributions	HW6 Assigned		
	2/24	Tue	Hypothesis Testing (A)		8	5
	2/26	Thu	Hypothesis Testing (B)		8	
	3/1	Sun		HW6 Due		
7	3/2	Mon	Lab 5: Hypothesis Testing	HW7 Assigned		
	3/3	Tue	One- and Two-Sample t Tests (A)		9	6
	3/5	Thu	One- and Two-Sample t Tests (B)		9	
	3/8	Sun		HW7 Due		
8	3/9	Mon	Lab 6: One- and Two-Sample t Tests	HW8 Assigned		
	3/10	Tue	Related Samples t Test (A)		10	7
	3/12	Thu	Related Samples t Test (B)		10	
	3/15	Sun		HW8 Due		
9	3/16	Mon	Lab 7: Related Samples t Test			
	3/17	Tue	Exam 2 Review			8
	3/19	Thu	Exam 2			
	3/22	Sun				
10			Spring Break			
11	3/30	Mon	No lab	HW9 Assigned		
	3/31	Tue	Confidence Intervals (A)		11	9
	4/2	Thu	Confidence Intervals (B)		11	
	4/5	Sun		HW9 Due		
12	4/6	Mon	Lab 8: Confidence Intervals	HW10 Assigned		
	4/7	Tue	Analysis of Variance (A)		12	10
	4/9	Thu	Analysis of Variance (B)		12	
	4/12	Sun		HW10 Due		
13	4/13	Mon	Lab 9: Analysis of Variance	HW11 Assigned		
	4/14	Tue	Correlation (A)		15	11
	4/16	Thu	Correlation (B)		15	
	4/19	Sun		HW11 DUE		
14	4/20	Mon	Lab 10: Correlation	HW12 Assigned		
	4/21	Tue	Regression (A)		16	12
	4/23	Thu	Regression (B)		16	
	4/26	Sun		HW12 Due		
15	4/27	Mon	Lab 11: Regression			
	4/28	Tue	Final Review (A)			
	4/20	Thu	Final Review (B)			
	5/3	Sun				
16	5/4	Mon	Lab 12: Final Review			
	5/5	Tue	Final Exam			
	5/7	Thu				
	5/10	Sun	Spring Instruction Ends			