

# PSY3090-1 SP25 - Research Methods And Statistics I

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 Edit



## Psychology Department


### PSY3090-1 Research Methods and Statistics I (4 units)

Spring 2025

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<b>Office hours:</b>	<b><u><a href="#">Click here to book an appointment!</a></u></b>  ( <a href="https://calendar.app.google/NjMC55pDUMn7iw418">https://calendar.app.google/NjMC55pDUMn7iw418</a> ) You must schedule an appointment 12 hours before or the system will prevent you from scheduling. If the available times don't work for you, shoot me an email and we can find something that works for both of us :)
<b>Teaching Assistant:</b>	Lyndsay Martins
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<b>Class Location:</b>	M/W: Colt 120 F: Ryan Library 220



<b>Class Meetings:</b>	M/W/F; 8:30 AM - 9:35 PM
<b>Department:</b>	Psychology
<b>Units:</b>	4
<b>Final written exam:</b>	Friday 7:30AM - 10:00AM
<b>Final exam presentations:</b>	Monday 8:30 - 10:00 AM
<b>Text*:</b>	Jhangiani, R.S., Chiang, I.C.A., Cuttler, C., & Leighton, D.C. (2017). <i>Research methods in psychology</i> (4 <sup>th</sup> edition). Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

\**Textbook note:* This is a freely-available textbook. There are many ways to read it. Follow this [link](https://kpu.pressbooks.pub/psychmethods4e/)  (<https://kpu.pressbooks.pub/psychmethods4e/>) to find out what works best for you!

## PLNU MISSION

### *To Teach ~ To Shape ~ To Send*

*Point Loma Nazarene University exists to provide higher education in a vital Christian community where minds are engaged and challenged, character is modeled and formed, and service becomes an expression of faith. Being of Wesleyan heritage, we aspire to be a learning community where grace is foundational, truth is pursued, and holiness is a way of life.*

## COURSE DESCRIPTION

At its core, psychology is a discipline that relies on insights from empirical research. The focus of this course is to train you to produce these insights and to contribute to the scientific understanding of human nature. In so doing, we will focus on developing important skills that will improve your ability to read and understand existing research, develop your own research questions, construct and test hypotheses, analyze data, and communicate research findings to both lay and professional audiences. The skills you learn along the way will improve your scholarship, and they will also give you specialized tools that can be applied outside the classroom in the business world, non-profit sector, health care settings, service industry, and higher education. Classroom activities will focus on lecture, discussion, tutorials, and hands-on practice. You will be evaluated based on your engagement with the material, your knowledge of it, and your ability to apply it to real-world problems and situations. When all



and done, it is my hope that you will find the material from this course to be useful, engaging, and an important part of psychological study, no matter what your interests and goals may be.

From the catalog: “Students gain experience in methods of design, data collection, management, and analysis. Students begin a significant research project. This course must be taken in the semester immediately preceding PSY 3091.”

**COURSE LEARNING OUTCOMES**

You will learn to:

- Apply the scientific method to study human behavior and the human mind.
- Generate scientific hypotheses and relate them to theories.
- Synthesize psychological research by finding published scientific psychological articles using online databases, and to read and correctly interpret them.
- Understand methodological and statistical concepts (e.g., external validity, ecological validity, internal validity, etc.) enough to critique existing scientific psychological research.
- Conduct statistical analyses using available software (e.g., JASP) and correctly interpret and communicate the results.
- Communicate the results of scientific research by writing APA-style empirical reports.
- Design, conduct, analyze, and present your own research study.

Objectives will be achieved through your reading of the written materials, through the lectures given and discussions led by the instructor, through in-class exercises, and through active participation by you in the production of your own experimental project.

Whether these objectives have been achieved or not will be measured by your scores on quizzes, exams, class participation, and both oral and written versions of your research project.

**COURSE CREDIT HOUR INFORMATION**

In the interest of providing sufficient time to accomplish the stated Course Learning Outcomes, this class meets the PLNU credit hour policy for a four unit class delivered over 15 weeks. Specific details about how the class meets the credit hour requirement can be provided by the university or our accrediting bodies.

**ASSESSMENT AND GRADING**

**Course Breakdown**

Homework/In-Class Exercises	35%
Exam 1	10%
Exam 2	10%
Final	15%
Mini Research Paper	15%



Professionalism

15%

**100%**

## **Homework/In-Class Exercises**

### **Exams**

Exams are short-answer and out of 50 points. Content will be similar to in-class discussions and activities. You will need to do some math (bring a calculator, phones are not allowed) and demonstrate a good understanding of research methods and statistics. Exam 1 will focus on content from weeks 1-5; Exam 2 will focus on content from weeks 6-10; and the final exam will focus on content from weeks 11-15. While not explicitly comprehensive, many early concepts in the semester are foundational to concepts later on. Therefore, you will need to be familiar with earlier concepts to do well on later exams.

### **Mini Research Paper**

This assignment is meant to expose you to the complete process of research before completing your final research project in 3091. You will conduct an experimental study and write up an APA style mini research paper. The mini research paper will include an abstract, short introduction, method, results, discussion, references, tables, and figures. See rubric for detailed instructions.

### **Professionalism**

My hope is that the skills you learn in this class will translate to your aspirations, whatever they may be. This class is a low stakes environment for you to learn, practice, and hone your skills. One necessary skill is professionalism. Professionalism encompasses a host of components. In this class you will be expected to:

- Participate
- Be prepared
- Be familiar with course policies
- Be kind, respectful, and helpful
- Be on task
- Do your fair share when working with others

Feedback will help you to understand your own strengths and growth areas related to professionalism. Feedback will be received twice: in the middle of the semester and at the end of the semester. Midterm feedback will not act as your final grade, only as a mid-semester check in, and will hopefully stimulate constructive conversation among group members. Everyone will provide feedback one more time at the end of the semester. This feedback will result in your final grades. These grades will be determined by both your classmates' observations as well as my own. Professionalism is numerically and objectively calculated based on survey responses. My own observations are considered equivalent to other students you have worked with, and survey responses are averaged across to produce a final grade. These averages are then transferred to the professionalism rubric. The most effective way to display commensurate (A+) professionalism is to communicate, delegate, listen, and be a nice human.



You are evaluating: **Ross Oakes Mueller**

Across the semester, they...

	Never	Sometimes	About half the time	Most of the time	Always
Participated in class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have been prepared for class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have been familiar with course policies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have been kind	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have been respectful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have been helpful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have been on task	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have paid attention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have done their fair share	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Grade Scale



A	B	C	D	F
A 93-100	B+ 87-89.99	C+ 77-79.99	D+ 67-69.99	F Less than 59
A- 90-92.99	B 83-86.99	C 73-76.99	D 63-66.99	
	B- 80-82.99	C- 70-72.99	D- 60-62.99	

### PLNU ATTENDANCE AND PARTICIPATION POLICY

Regular and punctual attendance at all class sessions is considered essential to optimum academic achievement. If the student is absent for more than 10 percent of class sessions, the faculty member will issue a written warning of de-enrollment. If the absences exceed 20 percent, the student may be de-enrolled without notice until the university withdrawal date or, after that date, receive an “F” grade.

### LATE ASSIGNMENTS

#### Assignments

Each day an assignment is late reduces the original assignment ceiling by 5%, up to a maximum of 50% lost (e.g., one day = 95%, two days = 90%, ten days = 50%). After ten days, the assignment is no longer eligible for credit without an official excused absence. However, you can also request an assignment extension. You can either receive an automatic two day extension or request more time if necessary. If you're interested, complete the form [here](https://pointloma.co1.qualtrics.com/jfe/form/SV_0fuXXRNHUY39w34)  (https://pointloma.co1.qualtrics.com/jfe/form/SV\_0fuXXRNHUY39w34). You must complete the form 24 hours before the assignment deadline. Otherwise, the initial late assignment policy stands. Late work will be accepted until the last week of classes. Official excused absences are given by the Provost's Office. Please  are

that the official PLNU policy is that illnesses are not excused absences, even with a note from a health care provider.

## **Exams**

If missed, you can makeup one exam for any reason. Makeups must be taken within one week of the original exam administration time, barring special circumstances. **Email me (<mailto:abitter@pointloma.edu>)** to schedule a time! It is possible that I will not be available for a makeup; however, the psychology department assistant or my TA can also administer your exams. All makeups will be short answer and may not have the same questions as the original exam.

## **FINAL EXAMINATION POLICY**

Successful completion of this class requires taking the final examination on its scheduled day. The final examination schedule is posted on the Traditional Undergraduate Records: Final Exam Schedules site. If you find yourself scheduled for three (3) or more final examinations on the same day, you are authorized to contact each professor to arrange a different time for one of those exams. However, unless you have three (3) or more exams on the same day, no requests for alternative final examinations will be granted.

## **STATE AUTHORIZATION**

State authorization is a formal determination by a state that Point Loma Nazarene University is approved to conduct activities regulated by that state. In certain states outside California, Point Loma Nazarene University is not authorized to enroll online (distance education) students. If a student moves to another state after admission to the program and/or enrollment in an online course, continuation within the program and/or course will depend on whether Point Loma Nazarene University is authorized to offer distance education courses in that state. It is the student's responsibility to notify the institution of any change in his or her physical location. Refer to the map on State Authorization to view which states allow online (distance education) outside of California.

## **PLNU COPYRIGHT POLICY**

Point Loma Nazarene University, as a non-profit educational institution, is entitled by law to use materials protected by the US Copyright Act for classroom education. Any use of those materials outside the class may violate the law.

## **PLNU RECORDING NOTIFICATION**

In order to enhance the learning experience, please be advised that this course may be recorded by the professor for educational purposes, and access to these recordings will be limited to enrolled students and authorized personnel. Note that all recordings are subject to copyright protection. Any unauthorized distribution or publication of these recordings without written approval from the University (refer to the Dean) is strictly prohibited.

## **PLNU ACADEMIC HONESTY POLICY**

Students should demonstrate academic honesty by doing original work and by giving appropriate credit to the ideas of others. Academic dishonesty is the act of presenting information, ideas, and/or concepts as one's own when in reality they are the results of another person's creativity and effort. A faculty member who believes a situa



involving academic dishonesty has been detected may assign a failing grade for that assignment or examination, or, depending on the seriousness of the offense, for the course. For all student appeals, faculty and students should follow the procedures outlined in the University Catalog. See Academic Policies for definitions of kinds of academic dishonesty and for further policy information.

## **ARTIFICIAL INTELLIGENCE (AI) POLICY**

You are allowed to use Artificial Intelligence (AI) tools (e.g., ChatGPT, Gemini Pro 1.5, GrammarlyGo, Perplexity, etc.) in this course. Any work that utilizes AI-based tools must be clearly identified as such, including the specific tool(s) used. This means you must cite when using AI, following APA style for your citations. If you do not cite your sources, this is considered plagiarism. Additionally, solely copying AI-produced text without significant modification is also considered plagiarism. AI-generated text must be altered to incorporate your own voice, insights, and understanding. The first time a violation occurs, you will receive a warning; subsequent violations will result in a zero on the assignment. Importantly, all group members must be in unanimous agreement over the use of AI tools.

## **PLNU ACADEMIC ACCOMMODATIONS POLICY**

PLNU is committed to providing equal opportunity for participation in all its programs, services, and activities in accordance with the Americans with Disabilities Act (ADA). Students with disabilities may request course-related accommodations by contacting the Educational Access Center (EAC), located in the Bond Academic Center (EAC@pointloma.edu or 619-849-2486). Once a student's eligibility for an accommodation has been determined, the EAC will work with the student to create an Accommodation Plan (AP) that outlines allowed accommodations. The EAC makes accommodations available to professors at the student's request. PLNU highly recommends that students speak with their professors during the first two weeks of each semester/term about the implementation of their AP in that particular course. Accommodations are not retroactive so clarifying with the professor at the outset is one of the best ways to promote positive academic outcomes. Students who need accommodations for a disability should contact the EAC as early as possible (i.e., ideally before the beginning of the semester) to assure appropriate accommodations can be provided. It is the student's responsibility to make the first contact with the EAC. Students cannot assume that because they had accommodations in the past, their eligibility at PLNU is automatic. All determinations at PLNU must go through the EAC process. This is to protect the privacy of students with disabilities who may not want to disclose this information and are not asking for any special accommodations.

## **LANGUAGE AND BELONGING**

Point Loma Nazarene University faculty are committed to helping create a safe and hospitable learning environment for all students. As Christian scholars we are keenly aware of the power of language and believe in treating others with dignity. As such, it is important that our language be equitable, inclusive, and prejudice free. Inclusive/Bias-free language is the standard outlined by all major academic style guides, including MLA, APA, and Chicago, and it is the expected norm in university-level work. Good writing and speaking do not use unsubstantiated or irrelevant generalizations about personal qualities such as age, disability, economic class, ethnicity, marital status, parentage, political or religious beliefs, race, gender, sex, or sexual orientation. In



language also avoids using stereotypes or terminology that demeans persons or groups based on age, disability, class, ethnicity, gender, race, language, or national origin. Respectful use of language is particularly important when referring to those outside of the religious and lifestyle commitments of those in the PLNU community. By working toward precision and clarity of language, we mark ourselves as serious and respectful scholars, and we model the Christ-like quality of hospitality. If you (or someone you know) have experienced a bias incident regarding language, you can find more information on reporting and resources at [www.pointloma.edu/bias](http://www.pointloma.edu/bias) (<http://www.pointloma.edu/bias>).

**SEXUAL MISCONDUCT AND DISCRIMINATION**

In support of a safe learning environment, if you (or someone you know) have experienced any form of sexual discrimination or misconduct, including sexual assault, dating or domestic violence, or stalking, know that accommodations and resources are available through the Title IX Office at [pointloma.edu/Title-IX](http://pointloma.edu/Title-IX). Please be aware that under Title IX of the Education Amendments of 1972, faculty and staff are required to disclose information about such misconduct to the Title IX Office. If you wish to speak to a confidential employee who does not have this reporting responsibility, you can contact Counseling Services at [counselingservices@pointloma.edu](mailto:counselingservices@pointloma.edu) or find a list of campus pastors at [pointloma.edu/title-ix](http://pointloma.edu/title-ix).

**CHANGE IN SYLLABUS OR SCHEDULE**

It is possible that I will make modifications to the syllabus or schedule during the semester. If this occurs, I will make an announcement by email, in class, or both.

**COURSE SCHEDULE**

Timeframe	Topics	Exams/Holidays
Week 1: Jan. 13th - Jan. 19th	Introduction to Statistics and Research Methods	No Class Friday
Week 2: Jan. 20th - Jan. 26th	Ethics and Survey Research	No Class Monday (MLK Jr. Day)
Week 3: Jan. 27th - Feb. 2nd	Measures of Central Tendency and Dispersion	















Week 4: Feb. 3rd - Feb. 9th	Probability	
Week 5: Feb. 10th - Feb. 16th	Distributions and Z-scores	
Week 6: Feb. 17th - Feb. 23rd	Chi Square	Exam 1 on Friday (Oct. 11)
Week 7: Feb. 24th - Mar. 2nd	Correlation 1	
Week 8: Mar. 3rd - Mar. 9th	Correlation 2	
March 10th - 16th: Spring Break!		
Week 9: Mar. 17th - Mar. 23rd	Regression	
Week 10: Mar. 24th - Mar. 30th	Statistical Power and Effect Size	
Week 11: Mar. 31st - Apr. 6th	T-tests	Exam 2 on Monday (Nov. 11)
Week 12: Apr. 7th - Apr. 13th	ANOVA	
Week 13: Apr. 14th - Apr. 20th	Repeated Measures	Easter Break - No Class Friday
Week 14: Apr. 21st - Apr. 27th	Validity and Reliability	Easter Break - No Class Monday
Week 15: Apr. 28th - May 4th	Scale Development	
Finals Week: May 5th - May 9th		Group Presentations in Taylor Hall Monday: 8:30 AM – 10:00 AM





















	Final Exam
	Friday 7:30AM - 10:00AM















Course Summary:

Date	Details	Due
Sun Jan 19, 2025	 <a href="#">Week 1 Activity: Introduction to Statistics and Research Methods</a> ( <a href="https://canvas.pointloma.edu/courses/77606/assignments/1144891">https://canvas.pointloma.edu/courses/77606/assignments/1144891</a> ) 	due by 11:59pm
Sun Jan 26, 2025	 <a href="#">Week 2 Activity - Ethics and Survey Research</a> ( <a href="https://canvas.pointloma.edu/courses/77606/assignments/1144899">https://canvas.pointloma.edu/courses/77606/assignments/1144899</a> ) 	due by 11:59pm
Sun Feb 2, 2025	 <a href="#">Week 3 Activity - Measures of Central Tendency and Dispersion</a> ( <a href="https://canvas.pointloma.edu/courses/77606/assignments/1144900">https://canvas.pointloma.edu/courses/77606/assignments/1144900</a> ) 	due by 11:59pm
Sun Feb 9, 2025	 <a href="#">Week 4 Activity: Probability</a> ( <a href="https://canvas.pointloma.edu/courses/77606/assignments/1144901">https://canvas.pointloma.edu/courses/77606/assignments/1144901</a> ) 	due by 11:59pm
Sun Feb 16, 2025	 <a href="#">Week 5 Activity: Distributions and Z-scores</a> ( <a href="https://canvas.pointloma.edu/courses/77606/assignments/1144902">https://canvas.pointloma.edu/courses/77606/assignments/1144902</a> ) 	due by 11:59pm
Wed Feb 19, 2025	 <a href="#">Exam 1</a> ( <a href="https://canvas.pointloma.edu/courses/77606/assignments/1144904">https://canvas.pointloma.edu/courses/77606/assignments/1144904</a> ) 	due by 10:55am
Sun Feb 23, 2025	 <a href="#">Week 6 Activity: Measurement and Chi Square</a> ( <a href="https://canvas.pointloma.edu/courses/77606/assignments/1144905">https://canvas.pointloma.edu/courses/77606/assignments/1144905</a> ) 	due by 11:59pm



Date	Details	Due
Sun Mar 2, 2025	 <a href="#">Week 7 Activity: Correlation 1</a> <a href="https://canvas.pointloma.edu/courses/77606/assignments/11448904">https://canvas.pointloma.edu/courses/77606/assignments/11448904</a>	due by 11:59pm
		
Sun Mar 9, 2025	 <a href="#">Midterm Professionalism</a> <a href="https://canvas.pointloma.edu/courses/77606/assignments/11448888">https://canvas.pointloma.edu/courses/77606/assignments/11448888</a>	due by 11:59pm
		
	 <a href="#">Week 8 Activity: Correlation 2</a> <a href="https://canvas.pointloma.edu/courses/77606/assignments/11448905">https://canvas.pointloma.edu/courses/77606/assignments/11448905</a>	due by 11:59pm
		
Sun Mar 23, 2025	 <a href="#">Week 9 Activity: Regression</a> <a href="https://canvas.pointloma.edu/courses/77606/assignments/11448906">https://canvas.pointloma.edu/courses/77606/assignments/11448906</a>	due by 11:59pm
		
Wed Mar 26, 2025	 <a href="#">Exam 2</a> <a href="https://canvas.pointloma.edu/courses/77606/assignments/11448885">https://canvas.pointloma.edu/courses/77606/assignments/11448885</a>	due by 12:05pm
		
Sun Mar 30, 2025	 <a href="#">Week 10 Activity: Statistical Power and Effect Size</a> <a href="https://canvas.pointloma.edu/courses/77606/assignments/11448927">https://canvas.pointloma.edu/courses/77606/assignments/11448927</a>	due by 11:59pm
		
Sun Apr 6, 2025	 <a href="#">Week 11 Activity: T-tests</a> <a href="https://canvas.pointloma.edu/courses/77606/assignments/11448903">https://canvas.pointloma.edu/courses/77606/assignments/11448903</a>	due by 11:59pm
		
Sun Apr 13, 2025	 <a href="#">Week 12 Activity: ANOVA</a> <a href="https://canvas.pointloma.edu/courses/77606/assignments/11448904">https://canvas.pointloma.edu/courses/77606/assignments/11448904</a>	due by 11:59pm
		
Sun Apr 20, 2025	 <a href="#">Mini Paper</a> <a href="https://canvas.pointloma.edu/courses/77606/assignments/11448890">https://canvas.pointloma.edu/courses/77606/assignments/11448890</a>	due by 11:59pm
		



Date	Details	Due
	 <a href="#">Week 13 Activity: Repeated Measures</a> <a href="https://canvas.pointloma.edu/courses/77606/assignments/1144895">https://canvas.pointloma.edu/courses/77606/assignments/1144895</a>	due by 11:59pm
		
	 <a href="#">Week 14 Activity: Validity and Reliability</a> <a href="https://canvas.pointloma.edu/courses/77606/assignments/1144896">https://canvas.pointloma.edu/courses/77606/assignments/1144896</a>	due by 11:59pm
		
Sun Apr 27, 2025	 <a href="#">Week 14 Activity: Validity and Reliability</a> <a href="https://canvas.pointloma.edu/courses/77606/assignments/1145032">https://canvas.pointloma.edu/courses/77606/assignments/1145032</a>	due by 11:59pm
		
Mon Apr 28, 2025	 <a href="#">Final Presentation Activity</a> <a href="https://canvas.pointloma.edu/courses/77606/assignments/1144898">https://canvas.pointloma.edu/courses/77606/assignments/1144898</a>	due by 11:59pm
		
Wed Apr 30, 2025	 <a href="#">Final Professionalism</a> <a href="https://canvas.pointloma.edu/courses/77606/assignments/1144897">https://canvas.pointloma.edu/courses/77606/assignments/1144897</a>	due by 11:59pm
		
Fri May 2, 2025	 <a href="#">Week 15 Activity: Scale Development</a> <a href="https://canvas.pointloma.edu/courses/77606/assignments/1144897">https://canvas.pointloma.edu/courses/77606/assignments/1144897</a>	due by 11:59pm
		
Fri May 9, 2025	 <a href="#">Final Exam</a> <a href="https://canvas.pointloma.edu/courses/77606/assignments/1144896">https://canvas.pointloma.edu/courses/77606/assignments/1144896</a>	due by 7:30am
		
	 <a href="#">Roll Call Attendance</a> <a href="https://canvas.pointloma.edu/courses/77606/assignments/1145632">https://canvas.pointloma.edu/courses/77606/assignments/1145632</a>	
	