

PSY390-1 SP19 - Research Methods And Statistics I

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Department of Psychology

PSY 390-1 Research Methods and Statistics I

4 Units

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.

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Office:	Culbertson Hall 213
Office hours:	Click here to see hours or book an appointment!
Class Location:	Evans Hall 121 (MW), Hughes Lab (F)
Class Meetings:	M/W/F, 10:55 – 12:05 PM
Department:	Psychology
Units:	4

Final Exam:	Wednesday, May 1st, 4:30-6:00pm
Text:	Discovering Statistics Using IBM SPSS Statistics by Andy Field

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. The themes for the course this year will focus on using psychological insights to encourage positive change in the domains of ***climate change, inequality, national security, civil rights, race relations, vocation, and personhood***. When all is said 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 391.”

COURSE LEARNING OUTCOMES

Students will be able to...

- Solve real-life, practical problems using psychological science and the scientific method.
- Understand and interpret statistical research findings that are presented in writing, in numerical form, or as tables or figures.
- Apply statistical concepts in clinical and non-clinical applications to optimize vocational performance. This includes being able to interpret clinical test scores, analyze business and financial performance, and empirically assess decision making outcomes.

- Critically evaluate research claims made by academics, business professionals, and media figures by formulating alternative hypotheses, generating alternative explanations, and designing follow-up and replication studies.
- Identify and remediate potential problems in empirical and non-empirical research. This includes recognition of incomplete literature reviews, design flaws, poorly formed hypotheses, ethics violations, incorrect statistical execution and inference, and unsupported conclusions.
- Write a research proposal and submit it to an institutional review board.
- Present the results of empirical research to professional and lay audiences using written, oral, and visual expression. This includes being able to write a research paper using APA style, construct a poster for a research conference, and present research in a brief oral presentation with visual aids.

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 upon request.

INCOMPLETES, MISSED EXAMS AND LATE ASSIGNMENTS

Incompletes will only be assigned in extremely unusual circumstances. All assignments are to be submitted by the due date listed on Canvas. Late work will be accepted until 11:59 PM on the last day of classes for the current semester.

If you need to miss a test for any reason, you will need to **notify the professor prior to the examination** for consideration to be administered a make-up test (if you fail to do so you may receive a 0% on the test). If a make-up test is administered there will be a 10% penalty (unless the absence is associated with a University-sponsored activity that is approved in writing by the Academic Provost)

Part of good paper-writing is effective time-management strategies. We could all write better papers if we had unlimited time to do so. However, there are certainly life situations that may prevent you from turning in your assignments on time. How to balance these two conflicting issues? In order to provide you with some flexibility, and nevertheless to ensure that all of your papers are evaluated on an “even playing field,” I have created a tiered grading system for late work. If you miss a deadline to turn in a paper, for any reason, you will have until **midnight on the next day to turn in the paper for a 5% deduction**. After midnight, you then have up to **midnight on the following day to turn it in for a 10% deduction**. **Following that, you will receive a 20% deduction**. All weekly assignments except for "mini paper" assignments, which will require your editing) can be turned in up until midnight on the last day of class (no papers will be accepted during finals week). No "mini papers" will be accepted after the date on which the professor sends grades/feedback to the class for that paper.

Because class time is an important component of learning, however, **absence-related in-class assignment submissions are only eligible for up to 70%** of the total available points. Please be aware that the official PLNU policy is that illnesses are not excused absences, even with a note from a health care provider.

FINAL EXAMINATION POLICY

Successful completion of this class requires taking the final examination **on its scheduled day**. Because this class's final examinations are being coordinated with three other sections, which meet at different times, the **Final Exam** for this class will be on **Wednesday, May 1st at 4:30pm**.

COURSE OUTLINE

Week	Themes	Research Spotlight	Research Methods	Statistics
	Race relations	Emotions	Survey research	Central tendency and dispersion
1 – 5	Civil rights	Memory	Interview	Probability
	Inequality	Human Development	Quasi experiments	Distributions and z-scores
	Immigration	Stress and Health	Naturalistic observation	Chi square
6 – 10	National Security	Religiosity	Secondary data 1	Correlation
	Climate Change	Attitudes	Secondary data 2	Regression
	Vocation	Personality	Meta analysis	Power analysis and effect size

11 – 15	Relationships	Attraction	True experiments	T-Test and ANOVA
	Personhood	Clinical disorders	Case study	Scale development

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 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 situation 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. Faculty should follow and students may appeal using the procedure in the university Catalog. See [Academic Policies \(http://catalog.pointloma.edu/content.php?catoid=18&navoid=1278\)](http://catalog.pointloma.edu/content.php?catoid=18&navoid=1278) for definitions of kinds of academic dishonesty and for further policy information.

PLNU ACADEMIC ACCOMMODATIONS POLICY

If you have a diagnosed disability, please contact PLNU's Disability Resource Center (DRC) within the first two weeks of class to demonstrate need and to register for accommodation by phone at 619-849-2486 or by e-mail at [DRC@pointloma.edu \(mailto:DRC@pointloma.edu\)](mailto:DRC@pointloma.edu). See [Disability Resource Center \(http://www.pointloma.edu/experience/offices/administrative-offices/academic-advising-office/disability-resource-center\)](http://www.pointloma.edu/experience/offices/administrative-offices/academic-advising-office/disability-resource-center) for additional information.

PLNU ATTENDANCE AND PARTICIPATION POLICY

Regular and punctual attendance at all classes is considered essential to optimum academic achievement. If the student is absent from more than 10 percent of class meetings (4 classes), the faculty member can file a written report which may result in de-enrollment. If the absences exceed 20 percent (8 classes), the student may be de-enrolled without notice until the university drop date or, after that date, receive the appropriate grade for their work and participation. See [Academic Policies \(http://catalog.pointloma.edu/content.php?catoid=18&navoid=1278\)](http://catalog.pointloma.edu/content.php?catoid=18&navoid=1278) in the Undergraduate Academic Catalog.

Save your absences for situations that are outside of your control. Do not consider your allowable absences as the number of times that you can miss class without being deenrolled. If you become ill after you used your allowable absences you will be deenrolled from the course.

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.

ASSESSMENT AND GRADING

Your final letter grade will be determined by a variety of assessments of your engagement, knowledge, and ability to apply what you have learned. In order to ensure fair grading, I will calculate your grade using both total points and z scores, which measure your performance compared with the performance of the class (i.e., grading on a 'curve'). The score that will ultimately be used for you is the one that results in the **higher** of the scores. In order to pass this course, however, you must earn at least 50 % of all possible points.

Assessment	Weight
In-class activities	15%
Take-home activities	20%
Computer lab activities	15%
"Mini-Paper" (Rough Draft & Final Draft)	15%
Exams and Final	30%
Reading Quizzes	5%
	100%

Grade	Percentage Needed	z Score Needed	Cumulative Percent	Percent Who Receive	Category Cumulative Percent
A	93 %	1.33	9.2 %	9.2%	
A-	90 %	1.00	15.9 %	6.7%	15.9%
B+	88 %	.67	25.1 %	9.3%	
B	84 %	.33	37.1 %	11.9%	
B-	80 %	.00	50 %	12.9%	34.1%
C+	77 %	-.33	62.9 %	12.9%	
C	70 %	-1.00	84.1 %	21.2%	
C-	65 %	-1.33	90.8 %	6.7%	40.8%
D+	62 %	-1.67	95.3 %	4.4%	
D	55 %	-2.00	97.7 %	2.5%	
D-	50 %	-2.33	99 %	1.3%	
F	0	< -2.33	100 %	1.0%	9.2%

Course Summary:

Date	Details	
Tue Jan 8, 2019	 01m In Class: Getting Acquainted (https://canvas.pointloma.edu/courses/42297/assignments/342757)	due by 11:59pm
	01w Quiz: Field, Sections 1.1-1.5.1.1	

Wed Jan 9, 2019	 (https://canvas.pointloma.edu/courses/42297/assignments/353083)	due by 9:30am
	 01w In Class: The Robber's Cave (https://canvas.pointloma.edu/courses/42297/assignments/342759)	due by 11:59pm
Fri Jan 11, 2019	 01 Computer Lab: Introduction to Literature Searches (https://canvas.pointloma.edu/courses/42297/assignments/342756)	due by 11:59pm
Sun Jan 13, 2019	 01 Take Home: Research Compatibility Survey (https://canvas.pointloma.edu/courses/42297/assignments/342758)	due by 11:59pm
Mon Jan 14, 2019	 02m In-Class: Bad Survey Design (https://canvas.pointloma.edu/courses/42297/assignments/342762)	due by 11:59pm
	 02m Quiz: Morling (2018) Chs. 5a and 6a (https://canvas.pointloma.edu/courses/42297/assignments/353170)	due by 11:59pm
Wed Jan 16, 2019	 02w Quiz: Mean, Median, and Mode (Field, Sections 1.6.1-1.6.2) (https://canvas.pointloma.edu/courses/42297/assignments/353190)	due by 9:30am
	 02w In-Class: Mean, Median, and Mode (https://canvas.pointloma.edu/courses/42297/assignments/342764)	due by 11:59pm
Fri Jan 18, 2019	 02 Computer Lab: Introduction to Qualtrics (https://canvas.pointloma.edu/courses/42297/assignments/342760)	due by 11:59pm
Tue Jan 22, 2019	 02 Take Home: Ethics Training (https://canvas.pointloma.edu/courses/42297/assignments/342761)	due by 11:59pm
Wed Jan 23, 2019	 03w In-Class: Variance and Standard Deviation (https://canvas.pointloma.edu/courses/42297/assignments/342766)	due by 11:59pm
	 03w Quiz: Variance and Standard Deviation (Field, Section 1.6.3) (https://canvas.pointloma.edu/courses/42297/assignments/353194)	due by 11:59pm
Fri Jan 25, 2019	 03 Computer Lab: Central tendency and dispersion (https://canvas.pointloma.edu/courses/42297/assignments/342763)	due by 11:59pm
Sun Jan 27, 2019	 03 Take Home: Race Relations Survey Administration (https://canvas.pointloma.edu/courses/42297/assignments/342765)	due by 11:59pm
Mon Jan 28, 2019	 04m In-Class: Probability Exercises (https://canvas.pointloma.edu/courses/42297/assignments/342768)	due by 11:59pm
Wed Jan 30, 2019	 04w In-Class: Probability Application in Context (https://canvas.pointloma.edu/courses/42297/assignments/342770)	due by 11:59pm

Fri Feb 1, 2019	 04 Computer Lab: Memory and Eyewitness Testimony (https://canvas.pointloma.edu/courses/42297/assignments/342767)	due by 11:59pm
Sun Feb 3, 2019	 04 Take Home: Civil Rights Interview (https://canvas.pointloma.edu/courses/42297/assignments/342769)	due by 11:59pm
Mon Feb 4, 2019	 05m Quiz: Distributions & Z-Scores (Field, Sections 1.6.4-1.6.5) (https://canvas.pointloma.edu/courses/42297/assignments/353248)	due by 9:30am
	 05m In-Class: Distributions (https://canvas.pointloma.edu/courses/42297/assignments/342772)	due by 11:59pm
Wed Feb 6, 2019	 05w In-Class: Z-scores (https://canvas.pointloma.edu/courses/42297/assignments/342774)	due by 11:59pm
Fri Feb 8, 2019	 05 Computer Lab: Distributions and z-scores (https://canvas.pointloma.edu/courses/42297/assignments/342771)	due by 11:59pm
Sun Feb 10, 2019	 05 Take Home: Inequality (https://canvas.pointloma.edu/courses/42297/assignments/342773)	due by 11:59pm
Mon Feb 11, 2019	 Exam 1 (https://canvas.pointloma.edu/courses/42297/assignments/342807)	due by 10:55am
Wed Feb 13, 2019	 06w Quiz: Chi-Square (Field, Sections 18.1-18.3.1) (https://canvas.pointloma.edu/courses/42297/assignments/353357)	due by 9:30am
	 06w In-Class: Chi Square (https://canvas.pointloma.edu/courses/42297/assignments/342777)	due by 11:59pm
Fri Feb 15, 2019	 06 Computer Lab: Immigration, Stress, and Health (https://canvas.pointloma.edu/courses/42297/assignments/342775)	due by 11:59pm
Sun Feb 17, 2019	 06 Take Home: Naturalistic Observation of health (https://canvas.pointloma.edu/courses/42297/assignments/342776)	due by 11:59pm
Mon Feb 18, 2019	 07m Quiz: Correlation (Field, Sections 7.1-7.2.2) (https://canvas.pointloma.edu/courses/42297/assignments/353410)	due by 9:30am
	 07m In-Class: Intro to Correlation (https://canvas.pointloma.edu/courses/42297/assignments/342779)	due by 11:59pm
Wed Feb 20, 2019	 07w In-Class: Intro to Correlation Application (https://canvas.pointloma.edu/courses/42297/assignments/342781)	due by 11:59pm
Fri Feb 22, 2019	 07 Computer Lab: Correlation Analysis of Secondary Data (https://canvas.pointloma.edu/courses/42297/assignments/342778)	due by 11:59pm

Sun Feb 24, 2019	 07 Take Home: National Security and Spurious Correlations (https://canvas.pointloma.edu/courses/42297/assignments/342780)	due by 11:59pm
Mon Feb 25, 2019	 08m In-Class: Correlation Visualizations (https://canvas.pointloma.edu/courses/42297/assignments/342782)	due by 11:59pm
Wed Feb 27, 2019	 08w In-Class: Correlations and Compatibility (https://canvas.pointloma.edu/courses/42297/assignments/342784)	due by 11:59pm
Fri Mar 1, 2019	 08 ??? Computer Lab (https://canvas.pointloma.edu/calendar?event_id=26232&include_contexts=course_42297)	12am
Sun Mar 10, 2019	 08 Take Home: Attitudes and Climate Change (https://canvas.pointloma.edu/courses/42297/assignments/342783)	due by 11:59pm
Mon Mar 11, 2019	 09m Quiz: Regression (Reading TBD) (https://canvas.pointloma.edu/courses/42297/assignments/353558)	due by 9:30am
	 09m In-Class: Intro to Regression (https://canvas.pointloma.edu/courses/42297/assignments/342786)	due by 11:59pm
Wed Mar 13, 2019	 09w In-Class: Predicting with Multiple Regression (https://canvas.pointloma.edu/courses/42297/assignments/342788)	due by 11:59pm
Fri Mar 15, 2019	 09 Computer Lab: Secondary Data and Regression (https://canvas.pointloma.edu/courses/42297/assignments/342785)	due by 11:59pm
Sun Mar 17, 2019	 09 Take Home: Regression (https://canvas.pointloma.edu/courses/42297/assignments/342787)	due by 11:59pm
Mon Mar 18, 2019	 Exam 2 (https://canvas.pointloma.edu/courses/42297/assignments/342808)	due by 10:55am
Wed Mar 20, 2019	 10w Quiz: Power Analysis & Effect Size (Reading TBD) (https://canvas.pointloma.edu/courses/42297/assignments/353560)	due by 9:30am
	 10w In-Class: Power Analysis and Effect Size (https://canvas.pointloma.edu/courses/42297/assignments/342791)	due by 11:59pm
Fri Mar 22, 2019	 10 Computer Lab: Power Analysis and Effect Size (https://canvas.pointloma.edu/courses/42297/assignments/342789)	due by 11:59pm
Sun Mar 24, 2019	 10 Take Home: Power Analysis and Effect Size (https://canvas.pointloma.edu/courses/42297/assignments/342790)	due by 11:59pm

Mon Mar 25, 2019	 11m Quiz: T-Tests & Experiments (Reading TBD) https://canvas.pointloma.edu/courses/42297/assignments/353561	due by 9:30am
	 11m In-Class: Introduction to T-Tests and Experiments I https://canvas.pointloma.edu/courses/42297/assignments/342793	due by 11:59pm
Wed Mar 27, 2019	 11w In-Class: Introduction to T-Tests and Experiments II https://canvas.pointloma.edu/courses/42297/assignments/342795	due by 11:59pm
Fri Mar 29, 2019	 11 Computer Lab: T-Test https://canvas.pointloma.edu/courses/42297/assignments/342792	due by 11:59pm
Sun Mar 31, 2019	 11 Take Home: T-Test https://canvas.pointloma.edu/courses/42297/assignments/342794	due by 11:59pm
Mon Apr 1, 2019	 12m Quiz: ANOVA https://canvas.pointloma.edu/courses/42297/assignments/353562	due by 9:30am
	 12m In-Class: Analysis of Variance https://canvas.pointloma.edu/courses/42297/assignments/342797	due by 11:59pm
Wed Apr 3, 2019	 12w: In-Class: Post Hoc Tests and Experiment Design https://canvas.pointloma.edu/courses/42297/assignments/342799	due by 11:59pm
Fri Apr 5, 2019	 12 Computer Lab: Analysis of T-Test and ANOVA https://canvas.pointloma.edu/courses/42297/assignments/342796	due by 11:59pm
Sun Apr 7, 2019	 12 Take Home: True Experiment Mini Paper https://canvas.pointloma.edu/courses/42297/assignments/342798	due by 11:59pm
Mon Apr 8, 2019	 13m Quiz: Repeated Measures (Reading TBD) https://canvas.pointloma.edu/courses/42297/assignments/353563	due by 9:30am
	 13m In-Class: Repeated Measures https://canvas.pointloma.edu/courses/42297/assignments/342801	due by 11:59pm
Fri Apr 12, 2019	 13 Computer Lab: Stats Exam Guidebook https://canvas.pointloma.edu/courses/42297/assignments/342800	due by 11:59pm
Mon Apr 15, 2019	 14m Quiz: Validity & Reliability https://canvas.pointloma.edu/courses/42297/assignments/353564	due by 9:30am
	 14m In-Class: Validity and Reliability https://canvas.pointloma.edu/courses/42297/assignments/342802	due by 11:59pm
Wed Apr 17, 2019	 14w In-Class: Validity and Personhood https://canvas.pointloma.edu/courses/42297/assignments/342804	due by 11:59pm

Wed Apr 24, 2019

 [14 Take Home: Revising the Mini Paper](https://canvas.pointloma.edu/courses/42297/assignments/342803)
(<https://canvas.pointloma.edu/courses/42297/assignments/342803>)

due by 9:30am

Fri Apr 26, 2019

 [Exam 3](https://canvas.pointloma.edu/courses/42297/assignments/342809)
(<https://canvas.pointloma.edu/courses/42297/assignments/342809>)

due by 10:55am

Wed May 1, 2019

 [Final Exam: Loma Research Conference \(Note: Wednesday of Final Exam Week\)](https://canvas.pointloma.edu/courses/42297/assignments/342810)
(<https://canvas.pointloma.edu/courses/42297/assignments/342810>)

due by 4:30pm

 [\(Removed - 15w In-Class: Creating a Measure of Loma Bubbliness\)](https://canvas.pointloma.edu/courses/42297/assignments/342805)
(<https://canvas.pointloma.edu/courses/42297/assignments/342805>)

 [\(Removed - 15w In-Class: Finalizing the the Loma Bubbliness Scale\)](https://canvas.pointloma.edu/courses/42297/assignments/342806)
(<https://canvas.pointloma.edu/courses/42297/assignments/342806>)

 [Roll Call Attendance](https://canvas.pointloma.edu/courses/42297/assignments/347690)
(<https://canvas.pointloma.edu/courses/42297/assignments/347690>)