

PSY390-1 FA18 - Research Methods And Statistics I

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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.

Instructor:	Max E. Butterfield, Ph.D.
Email:	mbutter@pointloma.edu
Office Phone:	(619) 849-2405
Office:	Culbertson Hall 105
Office hours:	MWF 1:30 - 3:00 PM
Class Location:	BAC156 (MW), LW216(F)
Class Meetings:	M/W/F, 10:55 – 12:05 PM
Department:	Psychology
Units:	4
Final Exam:	4:30 - 7:00 PM on 12/12/18 in Colt Forum
Text:	<i>None, all materials will be provided free of charge</i>

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 three unit class delivered over 15 weeks. Specific details about how the class meets the credit hour requirement can be provided upon request.

INCOMPLETES 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. Late take-home assignments, quizzes, and exams are still eligible for full credit. Because class time is an important component

of learning, however, absence-related in-class assignment submissions are only eligible for up to 75% 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**. The final examination schedule is posted on the [Class Schedules \(http://www.pointloma.edu/experience/academics/class-schedules\)](http://www.pointloma.edu/experience/academics/class-schedules) site. No requests for early examinations or alternative days will be approved.

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, the faculty member can file a written report which may result in de-enrollment. If the absences exceed 20 percent, 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.

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	25%
Take-home activities	25%
Computer lab activities	25%
Exams and Final	25%
	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	due by 11:59pm
Tue Aug 28, 2018	 01m In Class: Getting Acquainted (https://canvas.pointloma.edu/courses/40301/assignments/311182)	due by 11:59pm
Wed Aug 29, 2018	 01w In Class: The Robber's Cave (https://canvas.pointloma.edu/courses/40301/assignments/311184)	due by 11:59pm
Fri Aug 31, 2018	 01 Computer Lab: Introduction to Literature Searches (https://canvas.pointloma.edu/courses/40301/assignments/311181)	due by 11:59pm
Mon Sep 3, 2018	 01 Take Home: Research Compatibility Survey (https://canvas.pointloma.edu/courses/40301/assignments/311183)	due by 11:59pm
Wed Sep 5, 2018	 02w In-Class: Bad Survey Design (https://canvas.pointloma.edu/courses/40301/assignments/311187)	due by 11:59pm
Fri Sep 7, 2018	 02 Computer Lab: Introduction to Qualtrics (https://canvas.pointloma.edu/courses/40301/assignments/311185)	due by 11:59pm
Mon Sep 10, 2018	 02 Take Home: Ethics Training (https://canvas.pointloma.edu/courses/40301/assignments/311186)	due by 11:59pm
Wed Sep 12, 2018	 03m In-Class: Mean, Median, and Mode (https://canvas.pointloma.edu/courses/40301/assignments/311189)	due by 11:59pm
Wed Sep 12, 2018	 03w In-Class: Variance and Standard Deviation (https://canvas.pointloma.edu/courses/40301/assignments/311191)	due by 11:59pm
Fri Sep 14, 2018	 03 Computer Lab: Central tendency and dispersion (https://canvas.pointloma.edu/courses/40301/assignments/311188)	due by 11:59pm
Mon Sep 17, 2018	 03 Take Home: Race Relations Survey Administration (https://canvas.pointloma.edu/courses/40301/assignments/311190)	due by 11:59pm
Wed Sep 19, 2018	 04m In-Class: Probability Exercises (https://canvas.pointloma.edu/courses/40301/assignments/311193)	due by 11:59pm
Wed Sep 19, 2018	 04w In-Class: Probability Application in Context (https://canvas.pointloma.edu/courses/40301/assignments/311195)	due by 11:59pm
Fri Sep 21, 2018	 04 Computer Lab: Memory and Eyewitness Testimony (https://canvas.pointloma.edu/courses/40301/assignments/311192)	due by 11:59pm
Mon Sep 24, 2018	 04 Take Home: Civil Rights Interview (https://canvas.pointloma.edu/courses/40301/assignments/311194)	due by 11:59pm
Mon Sep 24, 2018	 05m In-Class: Distributions (https://canvas.pointloma.edu/courses/40301/assignments/311197)	due by 11:59pm

Date	Details	
Wed Sep 26, 2018	 05w In-Class: Z-scores https://canvas.pointloma.edu/courses/40301/assignments/311199	due by 11:59pm
Fri Sep 28, 2018	 05 Computer Lab: Distributions and z-scores https://canvas.pointloma.edu/courses/40301/assignments/311196	due by 11:59pm
Mon Oct 1, 2018	 Exam 1 (https://canvas.pointloma.edu/courses/40301/assignments/311233)  05 Take Home: Inequality https://canvas.pointloma.edu/courses/40301/assignments/311198	due by 10:55am due by 11:59pm
Wed Oct 3, 2018	 06w In-Class: Chi Square https://canvas.pointloma.edu/courses/40301/assignments/311202	due by 11:59pm
Fri Oct 5, 2018	 06 Computer Lab: Immigration, Stress, and Health https://canvas.pointloma.edu/courses/40301/assignments/311200	due by 11:59pm
Mon Oct 8, 2018	 06 Take Home: Naturalistic Observation of health https://canvas.pointloma.edu/courses/40301/assignments/311201  07m In-Class: Intro to Correlation https://canvas.pointloma.edu/courses/40301/assignments/311204	due by 11:59pm due by 11:59pm
Wed Oct 10, 2018	 07w In-Class: Intro to Correlation Application https://canvas.pointloma.edu/courses/40301/assignments/311206	due by 11:59pm
Fri Oct 12, 2018	 07 Computer Lab: Correlation Analysis of Secondary Data https://canvas.pointloma.edu/courses/40301/assignments/311203	due by 11:59pm
Mon Oct 15, 2018	 07 Take Home: National Security and Spurious Correlations https://canvas.pointloma.edu/courses/40301/assignments/311205  08m In-Class: Correlation Visualizations https://canvas.pointloma.edu/courses/40301/assignments/311207	due by 11:59pm due by 11:59pm
Wed Oct 17, 2018	 08w In-Class: Correlations and Compatibility https://canvas.pointloma.edu/courses/40301/assignments/311209	due by 11:59pm
Mon Oct 22, 2018	 08 Take Home: Attitudes and Climate Change https://canvas.pointloma.edu/courses/40301/assignments/311208  09m In-Class: Intro to Regression https://canvas.pointloma.edu/courses/40301/assignments/311211	due by 11:59pm due by 11:59pm
Wed Oct 24, 2018	 09w In-Class: Predicting with Multiple Regression https://canvas.pointloma.edu/courses/40301/assignments/311213	due by 11:59pm
Fri Oct 26, 2018	 09 Computer Lab: Secondary Data and Regression https://canvas.pointloma.edu/courses/40301/assignments/311210	due by 11:59pm

Date	Details	
Mon Oct 29, 2018	 Exam 2 (https://canvas.pointloma.edu/courses/40301/assignments/311234)	due by 10:55am
	 09 Take Home: Regression (https://canvas.pointloma.edu/courses/40301/assignments/311212)	due by 11:59pm
Wed Oct 31, 2018	 10w In-Class: Power Analysis and Effect Size (https://canvas.pointloma.edu/courses/40301/assignments/311216)	due by 11:59pm
Fri Nov 2, 2018	 10 Computer Lab: Power Analysis and Effect Size (https://canvas.pointloma.edu/courses/40301/assignments/311214)	due by 11:59pm
Mon Nov 5, 2018	 10 Take Home: Power Analysis and Effect Size (https://canvas.pointloma.edu/courses/40301/assignments/311215)	due by 11:59pm
	 11m In-Class: Introduction to T-Tests and Experiments I (https://canvas.pointloma.edu/courses/40301/assignments/311218)	due by 11:59pm
Wed Nov 7, 2018	 11w In-Class: Introduction to T-Tests and Experiments II (https://canvas.pointloma.edu/courses/40301/assignments/311220)	due by 11:59pm
Fri Nov 9, 2018	 11 Computer Lab: T-Test (https://canvas.pointloma.edu/courses/40301/assignments/311217)	due by 11:59pm
Mon Nov 12, 2018	 11 Take Home: T-Test (https://canvas.pointloma.edu/courses/40301/assignments/311219)	due by 11:59pm
	 12m In-Class: Analysis of Variance (https://canvas.pointloma.edu/courses/40301/assignments/311222)	due by 11:59pm
Wed Nov 14, 2018	 12w: In-Class: Post Hoc Tests and Experiment Design (https://canvas.pointloma.edu/courses/40301/assignments/311224)	due by 11:59pm
Fri Nov 16, 2018	 12 Computer Lab: Analysis of T-Test and ANOVA (https://canvas.pointloma.edu/courses/40301/assignments/311221)	due by 11:59pm
Mon Nov 19, 2018	 12 Take Home: True Experiment Mini Paper (https://canvas.pointloma.edu/courses/40301/assignments/311223)	due by 11:59pm
	 13m In-Class: Repeated Measures (https://canvas.pointloma.edu/courses/40301/assignments/311226)	due by 11:59pm
Mon Nov 26, 2018	 13 Take Home: Thanksgiving Break Assignment (https://canvas.pointloma.edu/courses/40301/assignments/311227)	due by 11:59pm
	 14m In-Class: Validity and Reliability (https://canvas.pointloma.edu/courses/40301/assignments/311228)	due by 11:59pm
Wed Nov 28, 2018	 14w In-Class: Validity and Personhood (https://canvas.pointloma.edu/courses/40301/assignments/311230)	due by 11:59pm
Fri Nov 30, 2018	 13 Computer Lab: Stats Exam Guidebook (https://canvas.pointloma.edu/courses/40301/assignments/311225)	due by 11:59pm

Date	Details	
Mon Dec 3, 2018	 14 Take Home: Revising the Mini Paper (https://canvas.pointloma.edu/courses/40301/assignments/311229)	due by 11:59pm
	 15m In-Class: Creating a Measure of Loma Bubbliness (https://canvas.pointloma.edu/courses/40301/assignments/311231)	due by 11:59pm
Wed Dec 5, 2018	 15w In-Class: Finalizing the the Loma Bubbliness Scale (https://canvas.pointloma.edu/courses/40301/assignments/311232)	due by 11:59pm
Fri Dec 7, 2018	 Exam 3 (https://canvas.pointloma.edu/courses/40301/assignments/311235)	due by 10:55am
	 Exam 3 Bonus Point: Course Evaluation (https://canvas.pointloma.edu/courses/40301/assignments/311236)	due by 11:59pm
Fri Dec 14, 2018	 Final Exam: Loma Research Conference (https://canvas.pointloma.edu/courses/40301/assignments/311239)	due by 11:30am
	 Exam Bonus: Homecoming event (https://canvas.pointloma.edu/courses/40301/assignments/311237)	
	 Extra Credit: Psi Chi practicum panel (https://canvas.pointloma.edu/courses/40301/assignments/311238)	