

PSY3091-2 SP21 - Research Methods and Statistics II

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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.
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Office Phone:	(619) 849-2405 (email preferred)
Office:	Culbertson Hall 105 (working remotely when possible)
Office hours:	Appointments available T/TH 2:00 PM - 5:00 PM Click here to book an appointment! (https://calendar.google.com/calendar/u/0/selfsched?sstoken=UU1NQ2x2ak51ZDc4fGRlZmF1bHR8ZDJmMjEzZGVjY2RiZThlMTY2NTczYjlmZGVjMTNIOTI)
Teaching Assistant:	Alex Liu
Email:	alexliu1127@pointloma.edu
Drop-In Remote Office Hours:	M/W: 11:30 AM - 1:00 PM

Class Modality and Location:	<p>Hyflex: You may have the option to participate in this course face-to-face, remotely, or a combination of the two. All lectures are offered as on-demand videos, and open discussions will be held on Wednesdays from 11:00 AM - 12:00 PM in person (by request) or on Zoom.</p> <p>Attendance is not required, and live discussions cannot not be offered until the university opens for face-to-face instruction. Please be sure to see Workday for the most recent physical meeting spaces assigned to this course.</p> <p>Please also refer to PLNU, local, state, and national health guidelines when choosing your modality. My personal recommendation is to attend class remotely. The course is designed to facilitate an equivalent learning experience across modalities. I am committed to protecting the vulnerable, even though it involves personal sacrifice. I hope we share that commitment.</p>
Class Meetings:	<p>Live Discussion: W: 11:00 AM - 12:00 PM</p> <p>Lectures: On Demand</p> <p>***Mental health days (no live discussion): W: 3/31, W: 5/5***</p>
Units:	4
Final Exam:	Your final project is due on June 9, 2020.
Text:	<i>None, all required 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. 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: "Study of design and of research in psychology and the use of statistics. Practice in the integration of design and statistics is included. Students finish a significant research project. This course must

be taken in the semester immediately following PSY 3090”

COURSE OUTLINE

Timeframe	Topic	Stats & Methods
Week 1 – 2	Navigating the IRB	Advanced Literature Searches
Week 3 – 4	Controversies in Psychological Science	Principles of Open Science
Week 5 – 6	Pilot Testing	Advanced Correlation
Week 7 – 8	Data Collection	Advanced Regression
Week 9 – 10	Data Analysis in JASP and R	Advanced T-Tests
Week 11 – 12	Follow-up Studies and Programmatic Research	Advanced One-Way ANOVA
Week 13 – 14	Literature Reviews	Advanced Meta-Analysis
Week 15 – 16	Manuscripts and Poster Presentations	Factorial ANOVA

COURSE LEARNING OUTCOMES

Our most important and basic objectives are for students to...

- Build and maintain an effective teamwork environment
- Develop basic and applied research skills
- Increase personal interest in research
- Increase skill related to communicating science findings to a wide variety of audiences

What this means in practice is that 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 by the university or our accrediting bodies.

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.

USE OF TECHNOLOGY

In order to be successful in the online environment, you'll need to meet the minimum technology and system requirements; please refer to the Technology and System Requirements information. Additionally, students are required to have headphone speakers compatible with their computer available to use. If a student is in need of technological resources please contact student-tech-request@pointloma.edu. Problems with technology do not relieve you of the responsibility of participating, turning in your assignments, or completing your class work.

PLNU ATTENDANCE AND PARTICIPATION POLICY

Regular and punctual attendance at all synchronous class sessions is considered essential to optimum academic achievement. If the student is absent for more than 10 percent of class sessions (virtual or face-to-face), the faculty member may issue a written warning of 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. In some courses, a portion of the credit hour content will be delivered asynchronously and attendance will be determined by submitting the assignments by the posted due dates. See Academic Policies in the Undergraduate Academic Catalog. If absences exceed these limits but are due to university excused health issues, an exception will be granted.

Asynchronous Attendance/Participation Definition

A day of attendance in asynchronous content is determined as contributing a substantive note, assignment, discussion, or submission by the posted due date. Failure to meet these standards will result in an absence for that day. Instructors will determine how many asynchronous attendance days are required each week.

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. Work turned in after the **due date** will still be considered **late**, but it will be accepted until the **available until date**. Late work turned in before the available until date is still eligible for full credit, but the official PLNU policy is that **all late assignments are counted as absences**. If a student is absent for more than 10 percent of class sessions (virtual or face-to-face), the faculty member may issue a written warning of 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. 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>). No requests for early examinations or alternative days will be approved.

COURSE OUTLINE

See Course Summary (below) for the schedule of activities. You will work closely with me to track your hours and develop meaningful projects according to your own timeline.

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

While all students are expected to meet the minimum standards for completion of this course as established by the instructor, students with disabilities may require academic adjustments, modifications or auxiliary aids/services. At Point Loma Nazarene University (PLNU), these students are requested to register with the Disability Resource Center (DRC), located in the Bond Academic Center. (DRC@pointloma.edu or 619-849-2486). The DRC's policies and procedures for assisting such students in the development of an appropriate academic adjustment plan (AP) allows PLNU to comply with Section 504 of the Rehabilitation Act and the Americans with Disabilities Act. Section 504 (a) prohibits discrimination against students with special needs and guarantees all qualified students equal access to and benefits of PLNU programs and activities. After the student files the required documentation, the DRC, in conjunction with the student, will develop an AP to meet that student's specific learning needs. The DRC will thereafter email the student's AP to all faculty who teach courses in which the student is enrolled each semester. The AP must be implemented in all such courses.

If students do not wish to avail themselves of some or all of the elements of their AP in a particular course, it is the responsibility of those students to notify their professor in that course. PLNU highly recommends that DRC students speak with their professors during the first two weeks of each semester about the applicability of their AP in that particular course and/or if they do not desire to take advantage of some or all of the elements of their AP in that 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. Your grade will be determined by the overall percentage of points at the end of the semester. 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.

Grade	Minimum Points Needed	Percentage Needed	z Score Needed	Cumulative Percent	Percent Who Receive	Category Cumulative Percent
A	465	93 %	1.33	9.2 %	9.2%	
A-	450	90 %	1.00	15.9 %	6.7%	15.9%
B+	440	88 %	.67	25.1 %	9.3%	
B	420	84 %	.33	37.1 %	11.9%	
B-	400	80 %	.00	50 %	12.9%	34.1%
C+	385	77 %	-.33	62.9 %	12.9%	
C	350	70 %	-1.00	84.1 %	21.2%	
C-	325	65 %	-1.33	90.8 %	6.7%	40.8%
D+	310	62 %	-1.67	95.3 %	4.4%	
D	275	55 %	-2.00	97.7 %	2.5%	
D-	250	50 %	-2.33	99 %	1.3%	
F	0	0	< -2.33	100 %	1.0%	9.2%

Course Summary:

Date	Details	Due
Mon Mar 1, 2021	 Week 1: Groundwork for Research https://canvas.pointloma.edu/courses/54703/assignments/622055	due by 11:59pm

Date	Details	Due
Mon Mar 8, 2021	 Week 2: Learning the Literature (https://canvas.pointloma.edu/courses/54703/assignments/622056)	due by 11:59pm
Mon Mar 15, 2021	 Week 3: Ethics and Human Participants (https://canvas.pointloma.edu/courses/54703/assignments/622057)	due by 11:59pm
Mon Mar 22, 2021	 Week 4: Questionable Research Practices (https://canvas.pointloma.edu/courses/54703/assignments/622059)	due by 11:59pm
Mon Mar 29, 2021	 Week 5: Experimental Design (https://canvas.pointloma.edu/courses/54703/assignments/622060)	due by 11:59pm
Mon Apr 5, 2021	 Week 6: The Institutional Review Board (https://canvas.pointloma.edu/courses/54703/assignments/622061)	due by 11:59pm
Mon Apr 12, 2021	 Week 7: Pilot Testing (https://canvas.pointloma.edu/courses/54703/assignments/622062)	due by 11:59pm
Mon Apr 19, 2021	 Week 8: Basic Data Collection (https://canvas.pointloma.edu/courses/54703/assignments/622063)	due by 11:59pm
Mon Apr 26, 2021	 Week 9: Advanced Data Collection (https://canvas.pointloma.edu/courses/54703/assignments/622064)	due by 11:59pm
Mon May 3, 2021	 Week 10: Basic Data Analysis (https://canvas.pointloma.edu/courses/54703/assignments/622065)	due by 11:59pm
Mon May 10, 2021	 Week 11: Advanced Data Analysis (https://canvas.pointloma.edu/courses/54703/assignments/622066)	due by 11:59pm
Mon May 17, 2021	 Week 12: Basic Research Writing (https://canvas.pointloma.edu/courses/54703/assignments/622067)	due by 11:59pm
Mon May 24, 2021	 Week 13: Advanced Research Writing (https://canvas.pointloma.edu/courses/54703/assignments/622068)	due by 11:59pm

Date	Details	Due
Mon May 31, 2021	 Week 14: Basic Science Communication (https://canvas.pointloma.edu/courses/54703/assignments/622069)	due by 11:59pm
Wed Jun 9, 2021	 Week 15: Advanced Science Communication (https://canvas.pointloma.edu/courses/54703/assignments/622070)	due by 11:59pm