

Psychology Department

Spring 2024

PSY 3091-2 Research Methods and Statistics I (4 units)

| | |
|-----------------------------------|---|
| Instructor title and name: | Alexandra N. Bitter, Ph.D. |
| Phone: | (619)849-3054 |
| Email: | abitter@pointloma.edu |
| Office: | Culbertson Hall 104 (Downstairs) |
| Office hours: | Click here to book an appointment! 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 :) |
| Teaching assistant: | Joyce Lynn |
| TA email: | jlin0020@pointloma.edu |
| Class location: | Evans 122 |
| Class meeting times: | M/W/F; 10:55 AM - 12:05 PM |
| Final exam presentations: | Wednesday 2:00 PM – 4:00 PM |

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 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 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.

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. Leaving early from class is considered an absence. If the student is absent for more than 10% of class sessions, the faculty member may issue a written warning of de-enrollment. If the absences exceed 20%, the student may be de-enrolled without notice until the university withdrawal date or, after that date, receive the appropriate grade for their work and participation. For example, when absences reach 20%, the final letter grade will be adjusted down one full letter grade (e.g., from an A to B) to account for lost learning due to diminished participation and engagement.

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 characteristics. In this class you will be expected to

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

Your grade will be determined by your classmates observations as well as my own.

LATE ASSIGNMENTS

Each late day reduces the original assignment ceiling by an additional 5%, up to a maximum of 50% lost (e.g., one day = 95%, two days = 90%, ten days = 50%). The ceiling is capped at 50% (e.g., eleven days = 50%, fifteen days = 50%). After twenty days, the assignment is no longer eligible for credit without an official excused absence. Late work will be accepted until the last week of classes. Official excused absences are given by the Provost's Office. 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](#) 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 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](#) for definitions of kinds of academic dishonesty and for further policy information.

PLAGIARISM

As the overarching goal of this course includes the ability to effectively use and summarize the research of others, it is of utmost importance that you do your best to acknowledge the work of others in an ethical manner. To this point, even well-intentioned students sometimes accidentally commit acts of plagiarism.

Students should demonstrate academic honesty by doing original work and by giving appropriate credit to the ideas of others. As explained in the university catalog, 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. Violations of university academic honesty include cheating, plagiarism, falsification, aiding the academic dishonesty of others, or malicious misuse of university resources. A faculty member who believes a situation involving academic dishonesty has been detected may assign a failing grade for a) that particular assignment or examination, and/or b) the course following the procedure in the university catalog. Students may appeal also using the procedure in the university catalog. See Academic Policies for further information. In this class, this involves accurately quoting any passages that were written by others, and accurately citing the ideas of others in your paper. Because Academic integrity is of tremendous importance both at PLNU and in the larger psychological community, academic dishonesty (plagiarism) will result in a failing grade for the course.

ARTIFICIAL INTELLIGENCE (AI) POLICY

ChatGPT (and generative artificial intelligence programs more broadly) are new inventions, and their exact place in contemporary society is not yet well defined. Until these programs and their social impact is better understood, I am reluctant to incorporate them too strongly in this course. My main concern is that they can be used in such a way that interferes with learning the intended skills and knowledge (e.g., relating scientific research back to personal experiences). Additionally, these programs often produce text that is problematic for other reasons (e.g., violate academic dishonesty codes, fail to address all grading criteria). As such, it is required to learn the intended skills and knowledge by writing them yourself. Thus, unless otherwise explicitly stated, their use is prohibited for all assignments in this course. Usage of these programs will be considered a form of academic dishonesty, and the penalty for using such programs can range from assignment failure to expulsion from the university (depending on the severity of the offense and students' past history).

PLNU ACADEMIC ACCOMMODATIONS POLICY

PLNU is committed to providing equal opportunity for participation in all its programs, services, and activities. 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 issue an academic accommodation plan ("AP") to all faculty who teach courses in which the student is enrolled each semester.

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 and/or if they do not wish to utilize some or all of the elements of their AP in that course.

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.

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. Inclusive 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.

You may report an incident(s) using the [Bias Incident Reporting Form](#).

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. 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 or find a list of campus pastors at 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.

ASSESSMENT AND GRADING

Of note, a majority of the assignments in this class will be completed and graded as a group. There are some systems in place to ensure group members are all contributing equally; however, if this does not occur and you feel as though you deserve a higher grade at the end of the semester, you can come talk to me and we can reassess.

Midterm

The midterm is a statistics practical. The exam will be written, and you will use a statistical program of your choice (JASP, SPSS, R) to input data, analyze data, and interpret the test results.

Grading:

| | |
|-----------------------------|-------------|
| Homework/In-Class Exercises | 50% |
| Midterm | 20% |
| Paper | 15% |
| Professionalism | <u>15%</u> |
| | 100% |

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 | |

DUTY TO REPORT

Point Loma Nazarene University is committed to maintaining work, learning, and living environment that is free from sex discrimination and does not engage in or tolerate discrimination on the basis of sex in its education programs and activities, including retaliation for asserting or otherwise participating in claims of sex discrimination.

The university is also committed to providing a work, learning, and living environment that is free of sexual harassment, including retaliation for asserting or otherwise participating in claims of sex harassment.

Additionally, the title IX office has created a resource to report bias incidents. A bias incident is any intentional or unintentional act or behavior directed toward an individual or group based on any facet of the individual’s or group’s identities.

Bias incidents may take the form of, but are not limited to:

- Racist slurs
- Derogatory comments
- Offensive terminology

- Cultural misappropriations (e.g., taking or using things from a culture that is not your own, especially without showing that you understand or respect this culture: e.g., costumes)
- Microaggressions (e.g., subtle, nonverbal, layered insults/assaults based on race, gender, class, sexuality, language, immigration status, phenotype, accent, or surname, often carried out automatically or unconsciously)

If you would like to report a bias incident, click [here](#).

COURSE OUTLINE

| Timeframe | Topic | Stats & Methods | Exams/Holidays |
|------------------------------------|---|---|--|
| Week 1 – 2 | Critical Consumption of Research | Advanced Literature Searches | MLK Day on 1/15 |
| Week 3 – 4 | Controversies in Psychological Science | Principles of Open Science | |
| Week 5 – 6 | Navigating the IRB & Pilot Testing | Advanced Correlation | Hybrid on 2/9 (No In-Class Meeting) |
| Week 7 – 8 | Data Collection | Advanced Regression | Midterm on 3/1 |
| Spring Break: Mar. 4th - Mar. 10th | | | |
| 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 | Easter Break: No Class Mar. 29th or Apr. 1st |
| Week 13 – 14 | Literature Reviews | Advanced Meta-Analysis | |
| Week 15 – 16 | Manuscripts and Poster Presentations | Factorial ANOVA | No Class Apr. 28th (Potentially Apr. 26th) |
| Final | | Group Presentations: Wednesday 2:00 PM – 4:00 PM | |