

Course Syllabus

 [Edit](#)



Department of Psychology

PSY3090-1: Research Methods and
Statistics I

4 Units

Fall 2021

M/W 10:55-12:05pm @ Rohr Hall 111
Final Exam: 12/13/2021 10:30 AM - 1:00 PM
Fri. 10:55-12:05pm @ LW 216

Instructor: Rosemond T. Lorona, Ph.

Phone: 619.849. 3305

Email: rlorona@pointloma.edu (<mailto:rlorona@pointloma.edu>)

Office: Culbertson 214

Office Hours: M/W/F 8:45-9:45am; in-person and Zoom office hours available by
appointment: <https://calendar.google.com/calendar/u/0/selfsched?>

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TA: Sabrina Deulofeu smdeulofeu0018@pointloma.edu
(<mailto:smdeulofeu0018@pointloma.edu>)

TA office hours: Thursday 4-5pm [via Zoom \(drop in using this link\)](https://pointloma.zoom.us/j/93017623531)
(<https://pointloma.zoom.us/j/93017623531>)

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 is an expression of faith. Being of Wesleyan heritage, we strive to be a learning community where grace is foundational, truth is pursued, and holiness is a way of life.

COURSE DESCRIPTION

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.

You're probably taking this course because you are majoring in psychology and enjoy learning about human thoughts, feelings, and behavior. But how, exactly, do psychologists get their ideas and information about humans? Well, the field of psychology is based on research and reoccurring patterns of data. Psychologists can interpret these data by utilizing statistics. Therefore, what we know about psychology is fundamentally tied to research and statistics! The abilities to understand statistics and make correct conclusions about research are critical for students and professionals in many fields. This course will introduce many commonly used statistics and designs for basic psychological research. The course will focus on the underlying theory and the interpretation of descriptive statistics, correlation, regression, t-tests, ANOVA, and nonparametric tests. An introductory hands-on experience with the computer statistical package **R** will also be included in the course. We will practice completing and interpreting **R** analyses in class and you will have opportunities to practice on your own. We will also discuss research validity and how to be a good consumer of scientific research. You will begin designing an original study, which will be completed in the following semester.

COURSE LEARNING OUTCOMES

1. Distinguish between the uses and conclusions of correlation, regression, t-tests, ANOVA, and nonparametric tests and decide which type of test is appropriate for specific research questions and designs.
2. Remember and apply the use of null-hypothesis testing and its limitations.
3. Identify issues in statistics and research, such as bias, power, error, and ethics, and identify possible solutions to these issues.
4. Complete statistical analyses in R and correctly interpret and form conclusions based on the results of statistical analyses.

5. Design a psychological study or experiment that answers a research question of interest.
6. Search for, obtain, and correctly interpret quality peer-reviewed research.

REQUIRED TEXTS

Research Methods in Psychology: Evaluating a World of Information (4th Ed) by Beth Morling

ISBN: 978-0-393-53627-0; 978-0-393-53626-3

Learning Statistics with R, version 0.6. by Danielle Navarro.

Download for free at <https://learningstatisticswithr.com>

Required Technology

RStudio, version 1.2.1335 or higher (free)

First, download R 3.6.1 (base program) on your personal laptop for free at <https://www.r-project.org/> and then download RStudio for free at <https://www.rstudio.com/>

If you are having trouble downloading the necessary technology, please contact IT to discuss options.

Learning Demonstrations and Assignments will be submitted through Canvas, so each student will need access to a computer.

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 4 unit class delivered over 15 weeks. It is anticipated that students will spend a minimum of 37.5 participation hours per credit hour on their coursework. For this course, students will spend an estimated 150 total hours meeting the course learning outcomes. The time estimations are provided in the Canvas modules. Dedicating adequate time to your learning will help you succeed and is especially important if you want an A in the course. Think of it as: hours spent --> points earned. Specific details about how the class meets the credit hour requirement can be provided upon request.

COURSE ASSIGNMENTS

Midterm Learning Demonstrations (30%): The midterms will consist of multiple choice and short answer questions that will require not only recognition of concepts, but comparisons, evaluations, and

applications of concepts. Learning demonstrations will emphasize material that we talked about in class and was addressed in lectures, but to earn an A, you will need to also study the assigned readings.

Assignments (45%): You will have regular assignments to complete throughout the semester (usually due Friday). From these assignments, you will gain experience reviewing research, communicating research findings, developing a research idea, using R, and interpreting statistics. These assignments are meant to reinforce theories and concepts. Detailed directions and grade expectations for each assignment are on Canvas.

Final Learning Demonstration (20%): We will celebrate all of our learning at the end of the semester. You will demonstrate your learning by responding to written questions that will require cumulative knowledge.

Final Research Celebration (5%): We will be celebrating the learning of the Research Methods II students by attending their research poster session. You will celebrate the learning of your peers by asking them meaningful questions about their work and congratulating them on their work. To earn credit, you must attend the session, complete a worksheet, and maintain a positive and professional demeanor during the session. Your presence is valued for those presenting, so please don't miss it! This will take place during finals week (tentatively Dec. 13th @8am).

Extra Credit (up to 2% added on final LD): You may earn up to 2% added to your Learning Demonstration grade by submitting a creative assignment related to course content. Examples include creating a music video, dance, art piece, poem or story, or something else that uses your talents. A basic powerpoint or prezi is not sufficient. Your extra credit will be graded according to your ability to think about statistics and research in a new way, not according to the subjective quality of your creativity. Extra credit must be submitted by the day of the final learning demonstration with no exceptions.

GRADING

Student grades will be posted in the Canvas grade book. It is important to read the comments posted in the grade book as these comments are intended to help students improve their work. Final grades will be posted within one week of the end of the class. Grades will be weighted as listed above and determined based on the following:

A = 93-100%

A- = 90-92.9%

B+ = 88-89.9%

B = 84-87.9%

B- = 80-83.9%

C+ = 77-79.9%

- C = 70-76.9%
- C- = 65-69.9%
- D+ = 62-64.9%
- D = 55-61.9%
- D- = 50-54.9%
- F = 49.9% or less

Course Policies and Expectations

General and Attendance

- Any changes to the syllabus (including course expectations and assignments) will be announced in class and/or as a Canvas announcement. Students are responsible for actively monitoring Canvas updates.
- Students are responsible for all content/material that is found within the Canvas course.
- Students should complete the assigned reading prior to class. Such practices will enable you fully participate in class activities.
- Regular and punctual attendance at all class sessions is considered essential to optimum academic achievement. Attendance will be taken at the beginning of class. If you are more than 15 minutes late to class, you will be counted absent. If you leave class early, you will be counted absent unless you notify me before class begins. 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 drop date or, after that date, receive the appropriate grade for their work and participation. See [Academic Policies \(https://catalog.pointloma.edu/content.php?catoid=46&navoid=2650#Class_Attendance\)](https://catalog.pointloma.edu/content.php?catoid=46&navoid=2650#Class_Attendance) in the Undergraduate Academic Catalog. If absences exceed these limits but are due to university excused health issues, an exception will be granted.
- Out of respect and care for one another, please do not attend class if you are feeling ill in any way. You will not miss points for being absent (just follow overall attendance policy above). Additionally, we will be wearing masks according to the university policies.
- If you miss class, you are responsible for obtaining [from a classmate] lecture material, class exercises, and all in-class announcements AND submit any assignments on time, if applicable.
 - As long as we are meeting in-person, I will not be recording lectures to post online.
 - I strongly encourage students to get vaccinated and stay vigilant about COVID to avoid missing class due to illness.

Submitting Assignments

- All due dates are posted in advance on Canvas. You may submit assignments early. Late work is accepted for 3 days, including weekend days, after the original due date. Canvas will automatically deduct 10% from the grade for each late day.
- Assignments are individual work; you are expected to complete the work on your own.
- Work submitted on Canvas must be in .doc, .docx, or .pdf file types *only*. The student is responsible for making sure Canvas files work and go through Turnitin. Files that do not open, are in the wrong file type, and/or can't go through Turnitin will be considered late until the problem is rectified.

Learning Demonstration (LD) Information

- LDs may consist of multiple choice, fill-in-the-blank, and/or short answer questions. You may be required to interpret and apply information based on assigned readings, lectures, and learning activities.
- All LDs require cumulative knowledge. You will be tested on the current unit and previous units.
- LDs will be taken during in-person class using Canvas. On test day, each student must bring an electronic device to take their LD (laptop recommended; phone or tablet is NOT recommended). The LD is not open-internet or open-book. You may bring one 3"x 5" index card with any notes on it to use.
- A make-up midterm LD is available in cases of documentable emergency or illness or if the student provides at least 2 weeks' notice of a non-emergency absence. The make-up LD must be taken within 2 weeks of the original test date and it is up to the student to contact the professor to schedule a time to take the LD in a proctored setting. Each student may not have more than one make-up midterm LD per semester. There is no option to re-take a LD that was previously attempted.
- The final LD cannot be dropped or missed for any reason. Successful completion of this course requires the on-time completion of the Final LD (final exam) on Monday 12/13 from 10:30-1pm.

About Contacting Me. I welcome your questions (about class or otherwise) and would enjoy hearing from you throughout the semester. Do not hesitate to email me or take advantage of office hours. I will give prompt email replies during the day Monday - Friday. It is not guaranteed that I will read emails in the evenings and weekends, so please do not leave important questions for the last minute!

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.

Academic Integrity. 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. Academic dishonesty also includes such acts as cheating, fabrication of information, misrepresentations, having unauthorized possession of exams or acquiring/providing information about

exams to offer/get an advantage. Academic dishonesty may lead to a zero for that assignment or examination and/or an F 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 information.

Accommodations. 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.

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 \(https://help.pointloma.edu/TDCClient/1808/Portal/KB/ArticleDet?ID=108349\)](https://help.pointloma.edu/TDCClient/1808/Portal/KB/ArticleDet?ID=108349) 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 \(mailto:student-tech-request@pointloma.edu\)](mailto: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.

Spiritual Care. Please be aware PLNU strives to be a place where you grow as whole persons. To this end, we provide resources for our students to encounter God and grow in their Christian faith. If students have questions, a desire to meet with the chaplain or have prayer requests you can contact the [Office of Spiritual Development \(https://www.pointloma.edu/offices/spiritual-development\)](https://www.pointloma.edu/offices/spiritual-development).

Title IX Office. If you or someone you know would like help related to an experience of sexual violence including sexual assault, harassment, domestic violence, dating violence, stalking or other type of non-consensual sexual conduct, please contact the Title IX Coordinator at PLNU, Danielle Brown Friberg (619-849-2313). Reporting is also available on the Title IX website. The Title IX office understands the sensitive nature of these situations and can provide information about available on- and off-campus resources. Staff members at the office will also explain your rights and the judicial process options, if you choose to file a complaint. If you or someone you know feels unsafe or may be in imminent danger, please call the PLNU Department of Public Safety (619-849-2525) or local police department (9-1-1) immediately.

Student Success and Wellness. If you or someone you know would like help related to a physical or mental health problem, (e.g., depression, anxiety, difficulty focusing on school or managing daily needs, grief, trauma resolution, sleep or eating changes, etc.), and/or would like academic assistance, please contact the appropriate office using the following information.

- Counseling Services 619-849-2574; sdwellnesscenter@pointloma.edu
(<mailto:sdwellnesscenter@pointloma.edu>)
- Educational Access Center 619-849-2533; eac@pointloma.edu (<mailto:eac@pointloma.edu>)
- Medical Services 619-849-2280; sdwellnesscenter@pointloma.edu
(<mailto:sdwellnesscenter@pointloma.edu>)
- Tutorial Services 619-849-2953; tutorialservices@pointloma.edu
(<mailto:tutorialservices@pointloma.edu>)

ASSIGNMENTS AT-A-GLANCE

Please see the weekly [Modules](#) for assignments due each week. Assignments and due dates will always be posted and available in advance.

Week	Content & Textbook Readings (read prior to class)
Week 1: Aug 31-Sept 3 (Class on Tues., Wed., Fri.)	Introductions, Science, Statistics, and Research ; Ch. 1 (RMP)
Week 2: Sept 4 -10 No Monday Class (Labor Day)	Sources of Information and Finding Sources ; Ch. 2 (RMP)
Week 3: Sept 11 – 17	Building Blocks of Data and Research ; Ch 2 (LSR)
Week 4: Sept 19 – 24	Introduction to R ; Ch. 3 (LSR)
Week 5: Sept 25 – Oct 1	Descriptive Statistics ; Ch. 5 (LSR)
Week 6: Oct 2 – 8	Probability and Probability Distributions ; Ch. 9 & 10 (LSR)
Week 7: Oct 9 – 15	Null Hypothesis Testing and Confidence Intervals ; Ch. 11

	(LSR)
Week 8: Oct 16 – 22 No Class Friday (Fall Break)	Comparing Means ; Ch. 13 (LSR)
Week 9: Oct 23 – 29	Comparing Means ; Ch. 13 (LSR)
Week 10: Oct 30 – Nov 5	ANOVA ; Ch. 14 (LSR)
Week 11: Nov 6 – 12	Factorial ANOVA ; Ch. 16 (LSR)
Week 12: Nov 13 – 19	Regression ; Ch. 15 (LSR)
Week 13: Nov. 20 – 26 No Wednesday or Friday Class (Thanksgiving)	Chi Square ; Ch. 12 (LSR)
Week 14: Nov 27 – Dec 3	Chi Square and Review ; Ch. 12 (LSR)
Week 15: Dec. 4 – 10	Developing your Project; A Return to Basics ; Ch. 3 (RMP)
Research Celebration: Monday Dec. 13 @ 8am Final Exam: Monday Dec. 13 @ 10:30-1pm	

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 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 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 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.