Course Syllabus

✎ Edit

Department of Psychology

PSY3090-1: Research Methods and Statistics I

4 Units

Fall 2023

M/W/F 10:55-12:05pm @ Ryan Learning Center 104

Basic Professor Information

Instructor: Rosemond T. Lorona, Ph.D

Phone: 619.849. 3305

Email (preferred): rlorona@pointloma.edu (mailto:rlorona@pointloma.edu)

I welcome your questions and would enjoy hearing from you throughout the semester. I will give prompt email replies as I am able during the work day, but there may be times when I am not available for a quick response, such as weekends and evenings.

Office Hours are times that students can ask the professor questions, get help on assignments, review past work, or seek advice. You can drop by my office without an appointment during these times in Culbertson 214.

Mon/Wed/Thurs/Fri 8:30-9:30am

Additional office hours available by appointment. Use my calendar to book a time with me:

https://calendar.google.com/calendar/u/0/selfsched?sstoken=UUZENFhVN29pR1BzfGRlZmF1bHR8ZTQ2NWNhMmVlYTkzYzU2NDQyZmI1ZTcxN2JhZDAwNTE ⬚ (https://calendar.google.com/calendar/u/0/selfsched?sstoken=UUZENFhVN29pR1BzfGRlZmF1bHR8ZTQ2NWNhMmVlYTkzYzU2NDQyZmI1ZTcxN2JhZDAwNTE)

TA: Kat Ryan, kryan0020@pointloma.edu (mailto:kryan0020@pointloma.edu)

TA office hours: Thursdays 3:30-4:30pm, drop in using **this Google Meet link** ⬚ (https://meet.google.com/aqn-nfdu-rwn) (no appointment necessary)

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 RESOURCES

- **Required Textbooks**
  - *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** ☐ **(https://learningstatisticswithr.com/)**
- **Folder/binder:** Any paper or plastic folder for paper handouts/worksheets. Worksheets will be frequently provided in class and should be kept for future reference. Additional copies of in-class worksheets will not be provided.
- **Required Technology**
  - **Computer (recommended):** Assignments will be submitted through Canvas, so each student will need access to a computer. Students can also utilize computers in the library for assignments.
  - **RStudio**, *version 1.2.1335 or higher (free)*- You may use the program on the library computers, or download to your personal computer. First, download R 3.6.1 or higher (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/** ☐ **(https://www.rstudio.com/)**
  - If you are having trouble with technology, please contact IT.

COURSE ASSIGNMENTS

Learning Demonstrations (3 LDS @ 10%, 15%, 20% of total grade, respectively): The LDs may consist of multiple choice, short answer, and/or fill-in-the-blank questions that will require not only recognition of concepts, but comparisons, evaluations, and applications of concepts. LDs 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. Each LD will be cumulative.

Assignments (50%): 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 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! The Research Celebration will take place on Dec. 13th @2-3:30pm and there will be no make-ups for students who are absent. As the "final exam" for this course, the Research Celebration cannot be dropped or missed for any reason.

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+ = 87-89.9%

B   = 83-86.9%

B- = 80-82.9%

C+ = 77-79.9%

C   = 73-76.9%

C- = 70-72.9%

D+ = 67-69.9%

D   = 63-66.9%

D- = 60-62.9%

F   = 59.9% or less

Course Policies and Expectations

General

- Any changes to the syllabus (including course expectations and assignments) are possible. Changes 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, lectures, or activities prior to class, especially for "Flipped Fridays". Such practices will enable you fully participate in class activities.

Attendance

- 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 withdrawal date or, after that date, receive an "F" grade. 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.
- Out of respect and care for one another, please do not attend class if you are feeling ill in any way. You **do not** need to obtain a doctor's note or email the professor. You will not miss points for being absent (just follow overall attendance policy above).
- **What if a student misses class for any reason?**
  - 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. Students may then see me during office hours to clarify any material as desired.
  - I do not send notes to students who are absent, Zoom students into class, nor record in-person lectures to post online. However, students may Facetime/Zoom their absent teammates into class during research group work if desired.
- **What if a student misses a learning demonstration (LD)?**
  - A make-up LD is available in cases of 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 LD per semester. There is no option to re-take a LD that was previously attempted.
- **What if a student misses the Research Celebration (final exam)?**
  - The final presentations cannot be dropped or made-up. During Finals week, you will attend the Research Celebration in lieu of a standard final exam. Successful completion of this course requires your attendance at the Research Celebration on Wednesday, Dec. 13th from 2-3:30pm. There is no make-up option for this; your attendance is important!
  - Because of the extensive group work involved in this course, "Incompletes" will only be granted in extreme emergency situations.

Submitting Assignments and Late Work

- All due dates are posted in advance on Canvas. You may submit assignments early.
- 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.
- *What if a student needs to turn in an assignment late? What if the file didn't upload correctly on Canvas and now it's late? What if there was a personal emergency and more time is needed?*
  - Late work is accepted for 10 days, including weekend days, after the original due date. Canvas will automatically deduct 10% from the grade for each late day. For example, an assignment submitted 3 days late can earn up to 70% of the available points. End-of-semester assignments may not be submitted late after the last day of regular class (to accommodate faculty grading deadlines). In other words, no coursework will be accepted after Friday, December 8th, 2023. Work submitted late may be graded later.
  - **Freebie** – students can exchange one no-questions-asked freebie to turn in one late assignment up to 10 days after initial deadline *at no deduction*. The freebie does **not** apply to learning demonstrations or extra credit. The freebie does not allow students to submit end-of-semester assignments after the last day of regular class. No coursework, including freebie work, will be accepted after Friday, December 8th, 2023.
    - To use your freebie, submit your late work on Canvas and include a Canvas submission comment saying that you are using the freebie (do not email the professor). The freebie must be used at the time of time of submitting the work, not retroactively.
- Extra credit: before each Learning Demonstration (LD), students may submit an extra credit assignment that is worth a 2% bump on that LD. The assignment is to make a video recording of yourself explaining and elaborating on 2 concepts from the study guide for that unit (i.e., two of the bullet point items of your choice). Providing examples, definitions, and connections between ideas is encouraged. The content in your video must be complete and accurate to earn credit. This is to encourage students to "teach" the concepts and practice putting ideas into their own words as a way to help prepare for the learning demonstration. Recordings should be between 30 seconds to 2 minutes long. The extra credit must be submitted anytime before the LD with no exceptions. There will be no other extra credit assignments offered.

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. Dedicating adequate time to your learning will help you succeed and is especially important if you want an A in the course because deep learning takes time! Specific details about how the class meets the credit hour requirement can be provided upon request.

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.

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 (https://www.pointloma.edu/offices/office-educational-effectiveness/disclosures)** to view which states allow online (distance education) outside of California.

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 (https://catalog.pointloma.edu/index.php) for definitions of kinds of academic dishonesty and for further information.

Use of Artificial Intelligence (AI) tools (e.g, ChatGPT, iA Writer, Marmot, Botowski) is not permitted, and use of these tools will be treated as plagiarism.

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.

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)**

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/TDClient/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)** .

Problems with technology do not relieve you of the responsibility of participating, turning in your assignments, or completing your class work.

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) 849-3020; **counselingservices@pointloma.edu (mailto:counselingservices@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.

Course Schedule	
Week	**Content & Textbook Readings (read prior to class)**
Week 1: August 28 - September 1	Introductions, Science, Statistics, and Research; Ch. 1 (Research Methods in Psychology text, RMP)

Week 2: September 2 - 8 No Monday Class	Sources of Information and Finding Sources; Ch. 2 (RMP)
Week 3: September 9 - 15	Building Blocks of Data and Research; Ch 2 (Learning Statistics with R text, LSR)
Week 4: September 16 - 22	Introduction to R; Ch. 3 (LSR)
Week 5: September 23 - 29	**Midterm Learning Demonstration 1 (Monday)** Descriptive Statistics; Ch. 5 (LSR)
Week 6: September 30 - October 6	Probability and Probability Distributions; Ch. 9 & 10 (LSR)
Week 7: October 7 - 13	Null Hypothesis Testing and Confidence Intervals; Ch. 11 (LSR)
Week 8: October 14 - 20 No Friday Class (Fall Break)	**(https://canvas.pointloma.edu/courses/68350/modules/280673)** Comparing Means; Ch. 13 (LSR)
Week 9: October 21 - 27	Comparing Means; Ch. 13 (LSR) **Midterm Learning Demonstration 2 (Friday)**
Week 10: October 28 - November 3	ANOVA; Ch. 14 (LSR)
Week 11: November 4 - 10	Factorial ANOVA; Ch. 16 (LSR)
Week 12: November 11 - 17	Regression; Ch. 15 (LSR)
Week 13: November 18 - 24 No Wednesday/Friday Class (Thanksgiving)	Chi Square; Ch. 12 (LSR)
Week 14: November 4 - December 1	Chi Square; Ch. 12 (LSR) Making Connections, Review
Week 15: December 2 - 8	**Learning Demonstration 3 (Monday)** Developing your Project; A Return to Basics
Research Celebration: Wednesday Dec. 13 @ 2pm **(https://canvas.pointloma.edu/courses/68350/assignments/926891)**	