



Department of Psychology

PSY 3090

Research Methods and Statistics I

Spring, 2020

Meeting days: MWF	Instructor: Dr. Ross Oakes Mueller
Meeting times: 10:55am-12:05pm	Phone: x2905
Meeting location: Evans Hall 121	E-mail: RossOakesMueller@pointloma.edu
Credit Hours: 4 Units	Office hours: Click Here to Schedule
Final Exam: Wednesday, May 6 th at 4:30pm	Office Location: Culbertson 213

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

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 GOALS/OBJECTIVES

Overview – The field of psychology requires a unique blend of competence both a) in practicing therapeutic **techniques** and b) in understanding and conducting psychological **research**. This course aims to develop your language, logic, and skills related to the latter. Specifically, you will not only learn to **identify the basic tenets of research psychology**, but will learn to *locate, critique, synthesize, conduct, and present psychological research*.

Locating Psychological Research – With the vast mountain of human knowledge becoming ever more accessible on the internet, most people simply trust in a global search engine (e.g., Google) to locate the answers to their questions. In fact, in a typical search, only 10% of people look past the first 10 search results to find the best answer for their question (Hearne, 2006). As you will soon see, these search results are often not the best source of quality information, and finding the best answer to your question usually requires a more careful “search” process. This course will provide you with the

skills and opportunity to search through the vast field of psychological research to find *quality* articles and theories that relate to a topic that is of interest to *you*.

Critiquing Psychological Research – How often have you found two different articles or individuals making competing claims about reality? A thorough “literature review” will reveal multiple competing theories and ideas, each of which claim to be “valid.” Such confusion becomes especially important in a field such as psychology, in which we are trying to relieve suffering and promote growth. This course will help you to identify specific “criteria of validity,” and use them to understand and evaluate the published articles of others who have conducted research. In the current “Age of Information,” the ability to critically analyze competing truth claims and separate the so-called “wheat” from the “chaff” is absolutely necessary to navigate the flood of data available to you.

Synthesizing Psychological Research – So you’ve become a search-wizard, and have now located dozens of different articles on your topic of interest. But what do they all mean? How do they fit together? And, perhaps most importantly, What is missing? The flood of search results are like millions of puzzle pieces (many of which don’t even belong to your puzzle!). This course will help you in the process of becoming a modern “puzzle master,” learning to first sort relevant from irrelevant information, and then learning to put the pieces together into a “literature review” that makes sense of many different pieces of data. Finally, this course will help you to identify important missing pieces, and to develop research questions that could help fill in the blanks.

Conducting Psychological Research – Once you’ve figured out the important questions to ask, how do you go about answering them? In particular, how do you avoid the pitfalls of other “less valid” articles and researchers? This course will teach you to apply the principles of basic scientific research to answering one or more questions that interest you. Specifically, you will learn to develop and conduct a study of your own. This will involve gaining skills in research design, problem solving, and (perhaps most importantly) group work. In fact, students in the past have found that the ability to work well with others is often the make-it-or-break-it factor that can create a successful research study.

Presenting Psychological Research – As students of psychology, you are studying to become relative experts in this field of knowledge. You have been blessed with tremendous academic and technological privilege; and with this privilege comes a great responsibility for this information. In a world that equates information with power, you now possess the power to either hurt or harm the world in profound ways. In short, the world needs the information you possess. Families need it. Churches need it. Suburban schools, inner-city programs, homeless shelters, all need what you have. And the only way that they can get it is if you learn to communicate it lovingly and coherently. This course will provide you with the opportunity both to present your research, and to critically (and lovingly) analyze the research of your peers.

STUDENT LEARNING OUTCOMES

- 1) You will gain a proficiency in using online tools to locate and gather both electronic and hard-copies of journal articles.
- 2) You will increase your ability to appropriately select, understand, interpret, and critically evaluate relevant published articles of others who have conducted research.
- 3) You will develop skills in “annotating” and organizing information from articles that they have read, so as to accurately understand the theories, findings, and “lingering questions” in the current “literature” on a given psychological topic.
- 4) You will develop a working understanding of the concepts of research ethics, validity, and reliability, and apply them to the process of developing an appropriate research question and testable hypotheses.
- 5) You will learn to critically evaluate, select, “pilot test,” and revise empirical measures of psychological constructs.
- 6) You will develop a proficiency in writing in APA format by memorizing common formatting requirements, by practicing your application, and by identifying and editing your own formatting errors.
- 5) You will increase your ability to accurately and effectively synthesize existing research into a formal “review of the literature” (or “Introduction” section).
- 6) You will gain experience and proficiency in conducting oral presentations of your work, and in providing helpful critical feedback to other students regarding their presentations.

The objectives will be achieved through your reading of the written materials, through the lectures given and discussions led by the instructor, through in-class exercises, and (most importantly) through active participation by you in the production of your own experimental project.

Whether these objectives have been achieved or not will be measured by your scores on quizzes, exams, class participation, and both oral and written versions of your research project.

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. Specific details about how the class meets the credit hour requirement can be provided upon request.

CANVAS (Course Management System, *the most recent version*)

We will be using Canvas this semester. Canvas can be accessed via <http://canvas.pointloma.edu>. You will see the welcome screen and a login button. You will need your username/password before you can proceed to log in. If you don't know your username/password, please contact the help desk for assistance. Select the login button to proceed to the login screen. At the login screen, enter your username/password.

QUIZZES

Much of the information that you will need to construct a stellar research study is found in your book. As this is a class that focuses on gaining information from written sources, it is of utmost importance that you practice this skill on your assigned readings. Class time is a unique opportunity to use your professor and your classmates as consultants. However, this can only happen if everyone has done the reading. Therefore, you will complete online quizzes on a regular basis. These quizzes will be non-comprehensive, and serve two purposes: 1) to give you an extra incentive to read before class, and 2) to help you gauge whether or not you have properly understood the concepts in the reading. However, because my goal is to help you to best make use of your written text, I will provide you with a list of questions that you should be able to answer after reading each chapter. It is highly likely that the quizzes will overlap with these questions. Also, because my goal is for you to thoroughly understand the material, you will have the opportunity to re-take these quizzes up to 5 times each (note: there will be different questions on each quiz). Because we may review the answers to quizzes in class, there will be **no** opportunities to make up a missed quiz.

ACADEMIC ACCOMMODATIONS

While all students are expected to meet the minimum academic standards for completion of this course as established by the instructor, students with disabilities may request academic accommodations. At Point Loma Nazarene University, students must request that academic accommodations by filing documentation with the [Disability Resource Center](#) (DRC), located in the Bond Academic Center. Once the student files documentation, the Disability Resource Center will contact the student's instructors and provide written recommendations for reasonable and appropriate accommodations to meet the individual needs of the student. See [Academic Policies](#) in the undergraduate academic catalog.

FERPA POLICY

In compliance with federal law, neither PLNU student ID nor social security number should be used in publicly posted grades or returned sets of assignments without student written permission. This class will meet the federal requirements by posting all grades on Canvas, where they are uniquely visible to each student. Also in compliance with FERPA, you will be the only person given information about your progress in this class unless you have designated others to receive it in the "Information Release" section of the student portal. See [Policy Statements](#) in the undergraduate academic catalog.

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. No requests for early examinations or alternative days will be approved.

REQUIRED TEXTBOOKS

Mitchell, M. & Jolley, J. (2009/2012). *Research Design Explained*. (7th or 8th ed.). New York: Wadsworth.
American Psychological Association. (2019). *Publication Manual of the American Psychological Association*. (7th ed.). Washington, D.C.: Author. (**Spiral Binding Recommended**)

METHOD OF GRADING

Quizzes	10%
Homework/In-Class Exercises	10%
Examinations	30%
Paper	30%
Group Work Grade	10%
Presentations	<u>10%</u>
	100%

Z Score

Grade	Percent.	Z-Score	Cumul. %	% Receiv.	
A	93-100%	1.33	0.0918	9.2%	
A-	90-92%	1	0.1587	6.7%	15.9%
B+	88-89%	0.67	0.2514	9.3%	
B	84-87%	0.33	0.3707	11.9%	
B-	80-83%	0	0.5	12.9%	34.1%
C+	77-79%	-0.33	0.6293	12.9%	
C	70-76%	-1	0.8413	21.2%	
C-	65-69%	-1.33	0.9082	6.7%	40.8%
D+	62-64%	-1.67	0.9525	4.4%	
D	55-61%	-2	0.9772	2.5%	
D-	50-54%	-2.33	0.9901	1.3%	
F	49% or below	<-2.33	1	1.0%	9.2%

A minimum of 50 % is needed to pass the course.

ATTENDANCE POLICY

Perhaps more than any other course in the psychology major, your attendance in this class is paramount to your success and your group's success. Outside of your academic achievement, your group work is the most important part of this course. It is not fair to your group or your academic development if you miss class without good cause. That is why the PLNU attendance policy will be strictly followed. This attendance policy is specified in the University Catalog. Please note the following key points and elaborations of the attendance policy.

- “There are no allowed or excused absences except when absences are necessitated by certain University-sponsored activities and are approved in writing by the Provost.”
 - University-sponsored activities that are approved in writing by the Provost usually are for NAIA events for student athletes and occasionally field trips for other PLNU courses.
 - You are not excused for being ill. Illness does not comprise an excused absence. You are not excused from class if you have a Doctor's appointment. You are not excused from class if you have a Doctor's

excuse. The University allows you four absences for these (and other) situations outside your control.

- When you are **absent** in this class **four times** (for any cause), a Notice of Deenrollment will be sent to the Vice Provost for Academic Administration. Your fifth absence will result in deenrollment.
- Save your absences for situations that are outside of your control. Do not consider your allowable absences as the number of times that you can miss class without being deenrolled. If you become ill after you used your allowable absences you will be deenrolled from the course.
- If you miss a test for any reason, you will need to notify the professor **prior** to the examination for consideration to be administered a make-up test (if you fail to do so you may receive a 0% on the test). If a make-up test is administered there will be a 10% penalty (unless the absence is associated with a University-sponsored activity that is approved in writing by the Academic Provost)
- Part of good paper-writing is effective time-management strategies. We could all write better papers if we had unlimited time to do so. However, there are certainly life situations that may prevent you from turning in your paper on time. How to balance these two conflicting issues? In order to provide you with some flexibility, and nevertheless to ensure that all of your papers are evaluated on an “even playing field,” I have created a tiered grading system for late work. If you miss a deadline to turn in a paper, for any reason, you will have until midnight on the next day to turn in the paper for a 5% deduction. After midnight, you then have up to midnight on the following day to turn it in for a 10% deduction. Following that, you will receive a 20% deduction. No papers will be accepted after the date on which the professor sends grades/feedback to the class for that paper.

A BIT OF GRACE...IN EXCHANGE FOR WORKS...

Some of the best learning opportunities occur during in-class discussions. Participating in these discussions can be immensely valuable to your learning. To acknowledge this importance, I will give some weight in your final grade to your classroom participation.

In the event a student’s final grade is within one percentage point of the next highest grade, classroom participation will be considered in assigning the final grade.

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, I have found that 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) in PSY 390/391 will result in a failing grade for the course.

Since you will be working in small groups, but **writing your own individual research paper**, it is highly important that you understand what constitutes academic dishonesty in PY 390/391.

- You are not allowed to send electronic copies of **any part of your research paper** to anyone but the professor. The rationale for this rule is that students can easily cut and paste portions of your paper into their paper (and this obviously constitutes plagiarism).
- You are not allowed to loan to another student **any part of your research paper**. Students can easily copy (or paraphrase) parts of your paper for inclusion into their paper (and this obviously constitutes plagiarism).
- If another student is found to plagiarize any part of your paper by using any of the above methods, *you* may also receive a failing grade for the course.

COURSE OUTLINE

Date	Details	
Wed Sep 27, 2017	 Review for Exam 1	due by 11:59pm
Tue Jan 14, 2020	 01t In Class: Introduction, syllabus, and Course Overview	12am
Wed Jan 15, 2020	 01w In Class: Basic Research Design	12am
	 Mitchell & Jolley Chs. 1 & 2 - Read and watch lectures	due by 9:30am
Fri Jan 17, 2020	 01f In Class: No Class, Watch Online Lectures on Basic Research Design and Hypothesis	12am
Mon Jan 20, 2020	 No Class (MLK Day)	12am
Wed Jan 22, 2020	 02w In Class: Basic Research Design: Generating Testable Hypotheses	12am
	 Chapter 1 Quiz - Mitchell & Jolley	due by 9:30am
	 Chapter 2 Quiz - Mitchell & Jolley	due by 9:30am
	 Chapter 3 Quiz - Mitchell & Jolley	due by 9:30am
	 Mitchell & Jolley Ch. 3	due by 9:30am
Fri Jan 24, 2020	 Meet in Hughes Lab Today (Learn techniques for Online Research)	10:55am to 12:05pm
	 02f Computer Lab: Introduction to Literature Searches	due by 12:15pm
Sun Jan 26, 2020	 Week 2 Take Home: Article Review #2 - Sign-up	due by 11:59pm
	 Week 2 Take Home: Article Review and Critique	due by 11:59pm
Mon Jan 27, 2020	 03m In Class: How to Read a Journal Article	12am
Wed Jan 29, 2020	 03w Error, Power, and Replications	12am
	 Chapter 4 Quiz - Mitchell & Jolley	due by 9:30am
	 Mitchell & Jolley Ch. 4	due by 9:30am
Fri Jan 31, 2020	 03f In Class: Computer Lab: Annotated Bibliography	12am
	 Article Review #2 & Critique ("Questions to Answer for Article Review")	due by 9:30am
Sun Feb 2, 2020	 Week 3 Take Home: Idea for Empirical Research Study	due by 11:59pm
Mon Feb 3, 2020	 04m Exam 1 (Chs. 1-4)	due by 10:55am
	 Week 3 Take Home (Part 2): Ideas for Empirical Research (Discussion)	due by 11:59pm
Wed Feb 5, 2020	 04w In Class: Present Article & Idea for Study	12am
Fri Feb 7, 2020	 04f In Class: Present Article & Idea for Study; form research groups	12am
Sun Feb 9, 2020	 Week 4 Take Home: Meet in Research Groups to Decide on Variables	10am to 11:59pm
Mon Feb 10, 2020	 05m In Class: Measuring Variables; Reliability and Validity	12am
	 Chapter 5 Quiz - Mitchell & Jolley	due by 9:30am
	 Mitchell & Jolley Ch. 5	due by 9:30am
Wed Feb 12, 2020	 05w In Class: Examining Data from Correlational Studies	12am
	 Chapter 7 Quiz - Mitchell & Jolley	due by 9:30am
	 Mitchell & Jolley Ch. 7	due by 9:30am

Fri Feb 14, 2020	05f In Class: Meet in Computer Lab: Basic Statistics Exercise on SPSS	12am
Sun Feb 16, 2020	Week 5 Take Home: Annotated Bibliography of (at least) One Source on Your Topic	due by 11:59pm
Mon Feb 17, 2020	06m In Class: Present Idea(s) for Research Study	12am
	Group Presents Idea for Research Study/Feedback	due by 10:55am
Wed Feb 19, 2020	06w In Class: Present Idea(s) for Research Study/Feedback	12am
Fri Feb 21, 2020	06f In Class: Writing a testable hypothesis (read and critique samples) - Use the Measure You Brought	12am
	Data on Measure (and bring to class)	due by 9:30am
Sun Feb 23, 2020	Week 6 Take Home (Part 1): Annotated Bibliography for a Second Article on Your Topic	due by 9:30am
	Week 6 Take Home (Part 2): Hypotheses for Your Group's Study (& Responses to Others' Topics)	due by 11:59pm
Mon Feb 24, 2020	07m In Class: Outlining a Lit Review	12am
	Chapter 15 Quiz - Mitchell & Jolley	due by 9:30am
	Mitchell & Jolley Ch. 15	due by 9:30am
	Hypotheses for Your Group's Study	due by 11:59pm
Tue Feb 25, 2020	Comment on Other Groups' Hypotheses	due by 11:59pm
Wed Feb 26, 2020	07w In Class: Writing the First Paragraph (Old:New Rule); Review for Exam	12am
Fri Feb 28, 2020	07f Exam 2 (Chs. 5, 7, & 15)	due by 10:55am
Sun Mar 1, 2020	Week 7 Take Home (Part 1): First Paragraph of Introduction (and Revised Hypotheses)	due by 11:59pm
	Week 7 Take Home (Part 2): Annotated Bibliography for Eight Sources	due by 11:59pm
Mon Mar 2, 2020	08m In-Class: Outlining a Lit Review	due by 4:59pm
Wed Mar 4, 2020	APA Worksheet	due by 9:30am
	08w In-Class: Writing a "No-Source" Lit Review	due by 11:59pm
Fri Mar 6, 2020	08f In Class: Meet in Computer Lab; SPSS Practice	12am
	Outline of Introduction #1	due by 9am
	08 Take Home: Rough Draft of Literature Review Outline	due by 9:30am
Mon Mar 16, 2020	09m In Class: Detecting Differences and Scales of Measurement	12am
	Chapter 6 Quiz - Mitchell & Jolley	due by 9:30am
	Mitchell & Jolley Ch. 6	due by 9:30am
Wed Mar 18, 2020	09w In Class: Final Group Presentations on Introduction	12am
	PowerPoint of Introduction Section	due by 8am
	08m In-Class: Intro or Method Presentation; INSTRUCTIONS FOR PEER REVIEW	due by 4:59pm

	 09f In Class: Meet in group with professor to discuss methodology	12am
Fri Mar 20, 2020	 Annotated Bibliography of 10 Articles	due by 9:30am
	 11 Computer Lab: Feedback for Introduction & Discussion	due by 11:59pm
	 11m In-Class: Feedback for Introduction Outline	due by 11:59pm
Sun Mar 22, 2020	 Week 9 Take Home: Outline 2 of Introduction	due by 9:30am
Mon Mar 23, 2020	 10m In Class: Present Methodology to Class	due by 9:30am
	 Copies of 2-3 Measures for Each Variable	due by 9:30am
Wed Mar 25, 2020	 10w In Class: Survey Research	12am
	 Chapter 8 Quiz - Mitchell & Jolley	due by 9:30am
	 Mitchell & Jolley Ch. 8	due by 9:30am
Fri Mar 27, 2020	 10f In Class: Internal and External Validity	12am
	 Chapter 9 Quiz - Mitchell & Jolley	due by 9:30am
	 Mitchell & Jolley Ch. 9	due by 9:30am
Sat Mar 28, 2020	 Introduction Section	due by 11:59pm
Sun Mar 29, 2020	 13 Take Home: Rough Draft of Introduction Section	due by 9:30am
Mon Mar 30, 2020	 Mitchell & Jolley - Ch. 10	due by 9:30am
	 Read: Simple Experiment (Mitchell & Jolley, Chapter 10)	due by 9:30am
	 In Class: The Simple Experiment	10:55am to 12:05pm
Wed Apr 1, 2020	 11w In Class: Present Revised Methodology	12am
	 PowerPoint of Methodology Presentation	due by 8am
Fri Apr 3, 2020	 Bring Final Measures to Class	due by 9:30am
	 11f In Class: Computer Room: Training Day for Qualtrics in Computer Lab	10:55am to 12:05pm
Sat Apr 4, 2020	 10 Computer Lab: Outline Method & Results	due by 11:59pm
Sun Apr 5, 2020	 Week 11 Take Home: Outline of Method	due by 11:59pm
Mon Apr 6, 2020	 12m Exam 3 (Chs. 6, 8, 9, & 10)	due by 10:55am
Wed Apr 8, 2020	 12w In-class construction of study website; in computer lab	10:55am to 12:05pm
	 Method Section	due by 11:59pm
Sat Apr 11, 2020	 Week 12 Take Home (Part 1): Put Experiment into Qualtrics	due by 11:59pm
Sun Apr 12, 2020	 Week 12 Take Home (Part 2): Pilot Test Your Study Using Group Members and 5-10 Others	due by 11:59pm
Wed Apr 15, 2020	 13w In Class: Meet in Computer Lab: Pilot Study; How to write an IRB Proposal	10:55am to 12:05pm
	 First Draft of Study Website	due by 11:59pm

Wed Apr 15, 2020	<ul style="list-style-type: none">  13w In Class: Meet in Computer Lab: Pilot Study; How to write an IRB Proposal 10:55am to 12:05pm  First Draft of Study Website due by 11:59pm
Thu Apr 16, 2020	<ul style="list-style-type: none">  IRB Proposal due by 11:59pm
Sat Apr 18, 2020	<ul style="list-style-type: none">  Week 13 Take Home (Part 1): Compare IRB Proposal with Group 12am
Sun Apr 19, 2020	<ul style="list-style-type: none">  Week 13 Take Home (Part 2) Take Home: First Draft of IRB Proposal due by 11:59pm
Mon Apr 20, 2020	<ul style="list-style-type: none">  14m In-Class:Write Introduction Section due by 11:59pm
Wed Apr 22, 2020	<ul style="list-style-type: none">  14w In Class: Final Powerpoint Présentation of Introduction and Method 12am  Final PowerPoint of Introduction & Method Sections due by 8am
Fri Apr 24, 2020	<ul style="list-style-type: none">  14f In Class: Final Powerpoint Présentation of Introduction and Method 12am
Sun Apr 26, 2020	<ul style="list-style-type: none">  03 Take Home: Finalize Experiment in Qualtrics due by 11:59pm  13 Take Home: Finalize IRB Proposal due by 11:59pm
Mon Apr 27, 2020	<ul style="list-style-type: none">  15m In Class: Review for Final Exam 12am
Wed Apr 29, 2020	<ul style="list-style-type: none">  Final Exam due by 11:59pm
Fri May 1, 2020	<ul style="list-style-type: none">  Final Introduction & Method Sections due by 11:59pm
Wed May 6, 2020	<ul style="list-style-type: none">  Final Exam 10:30am to 1pm  Group Participation Survey due by 11:59pm
	<ul style="list-style-type: none">  Fuller Integration Symposium  Research Forum  Roll Call Attendance