

KIN 6005

Research Methods

COURSE GENERAL INFORMATION

Dates: September 5 - December 19

Credit Hours: 3

Prerequisites: Concurrent enrollment in KIN 6000

DESCRIPTION and OUTCOMES

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

This course provides an introduction to analyzing data and designing research experiments in exercise and sport science. Topics will include: 1) selected techniques and designs used in research, with special emphasis given to planning, conducting, and reporting of research; and 2) applied statistical analysis and interpretation of data from the field of exercise and sport science.

COURSE AIM

This course will provide you with basic knowledge of descriptive and inferential statistics prior to enrolling in KIN 610: Evidence based practice and Decision Making in Kinesiology. Course meetings will consist of in-class lectures, online modules, and laboratory sessions for which you will collect, analyze, and interpret data as well as submit a scientific report on the results. You will also be required to conduct a pilot research project and present the findings in an oral format as part of a research

proposal process. Specific attention will be given to Master's thesis or capstone project research and writing as you begin to identify and write your thesis/project.

Note: *KIN 6005, 6010 and 6050 are meant to be taken in sequence. KIN 6005 emphasizes basic theory and understanding of research methodology and statistical analyses; KIN 6010 integrates the application of evidence with clinical decision making; and KIN 6050 provides the opportunity for additional insight and understanding through seminar-style discussion, directed readings (KIN 6060), and practical experience related to Exercise Science.*

INSTITUTIONAL LEARNING OUTCOMES (ILO)

- 1. Learning, Informed by our Faith in Christ**

Students will acquire knowledge of human cultures and the physical and natural world while developing skills and habits of the mind that foster lifelong learning.

- 2. Growing, In a Christ-Centered Faith Community**

Students will develop a deeper and more informed understanding of others as they negotiate complex professional, environmental and social contexts.

- 3. Serving, In a Context of Christian Faith**

Students will serve locally and/or globally in vocational and social settings.

PROGRAM LEARNING OUTCOMES (PLO)

The Point Loma Nazarene University MS-KIN graduate will be able to:

1. Appraise current research data in Kinesiology and integrate it into professional practice to solve relevant problems and make effective decisions.
2. Work independently and with a team to persuasively communicate essential information in their discipline.
3. Demonstrate appropriate breadth of knowledge of the background and principle research in their specialization in order to conduct an independent research project.
4. Serve various populations, integrating compassionate care and the Christian faith with their professional practice.
5. Pursue an active and growing involvement in their discipline by achieving advanced certification and/or membership in a related professional organization.

COURSE LEARNING OUTCOMES (CLO)

The following learning outcomes will be achieved by students in this course:

1. Explain the value and importance of developing research ideas, conducting research and employing the scientific method within Kinesiology to solve relevant problems.
2. Explain the general principles of research design for experimental and non-experimental research, including literature review, sampling procedures, selection of subjects, ethical treatment of subjects, data collection, and IRB standards.
3. Understand basic measurement constructs such as validity, reliability, scales of measurement, field tests, and laboratory tests
4. Employ statistical analysis for the purpose of exploratory data analysis and hypothesis testing, including t-tests, ANOVAs with post hoc tests, factorial ANOVAs, correlation and regression, power analysis, and selected non-parametric procedures.
5. Utilize SPSS procedures and interpret output for all statistical procedures.
6. Understand and apply qualitative analysis and mixed-methods designs in kinesiology research.
7. Develop and present a thesis or capstone project proposal according to committee guidelines and including appropriate formatting (i.e., either journal manuscript or thesis as approved by academic advisor).

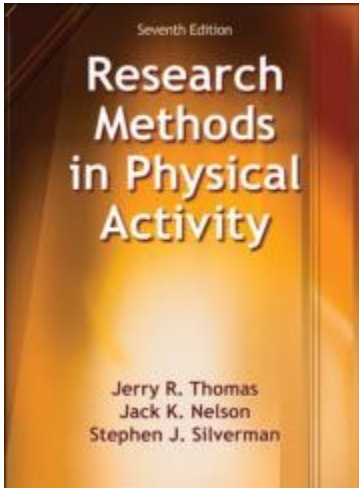
COURSE INSTRUCTOR

Arnel Aguinaldo, PhD, ATC

Email: aaguinal@pointloma.edu

Office Hours: Thursdays 3-5pm or by appointment (Rohr Science 194)

REQUIRED RESOURCES



Thomas, J.R., Nelson, J.K., & Silverman, S. (2015). ***Research methods in physical activity*** (7th ed.). Champaign, IL: Human Kinetics. [Purchase eBook here](#)

[\(Links to an external site.\)](#)

.
SPSS Statistics (Standard Grad Pack) software - available at student pricing from [ThinkEDU](#)

[\(Links to an external site.\)](#)

. SPSS is also available at the Ryan Library and through [Virtual Desktop](#).

[Laerd Statistics](#)

[\(Links to an external site.\)](#)

- online SPSS statistical guides (sign up for the 6 month plan)

ADDITIONAL RESOURCES PROVIDED:

- Lecture notes, videos, and journal articles available via the course in Canvas

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. All supplemental materials posted on this course site (including articles, book excerpts, or other documents) are provided for your personal academic use. These materials may be protected by copyright law and should not be duplicated or distributed without permission of the copyright owner.

ASSESSMENT AND GRADING

Course Requirements: Assessment of Course Learning Outcomes

1. ***Discussion Board Participation (10%): Assesses Course Learning Outcomes #1, #2, #4, #6***

We have supplemented the course text and lecture materials with current evidence-based medical literature. These readings will be provided via electronic access to journal articles and systematic reviews. It is expected that course material will be read **before** the scheduled lecture so that informed and lively discussion may be the primary focus of class meetings. The aim of supplemental readings is to keep you current with contemporary practice (aka "Journal Club"). After certain readings, and prior to the in-class discussion, you will respond to questions on the Discussion Board on Canvas. At other times, you will be asked to summarize the key points of outside readings by outlining the major points of the article prior to class. You should be ready to discuss these outlines with your colleagues in class. Additionally, you are expected to participate in the People Introductions discussion in Week 1 (worth 5 points).

2. ***Inter-Module quizzes (8%): Assesses Course Learning Outcomes #2-4***

You will complete a set of readings in preparation for each week's session. In order to assess your preparation, you will complete an online quiz over the readings as well as the previous week's material to gauge your preparation for in-class discussion. These are not meant to be arduous but to ensure you have appropriately reviewed the material prior to coming to class. These will also allow the professor to ascertain "sticking points" for students so that class time can be spent in clarifying key concepts. There will be **four** module quizzes over the course of the semester. In some cases, you will not be able to "complete" a module without completing the quiz.

3. ***Protecting Human Research Participants Certification (2%): Assesses Course Learning Outcome #2***

All investigators engaging in clinical research where human participants are involved must undergo human subjects training. This training covers the ethical issues involving human participants in research. You will need to submit your certificate of completion by week 3, which is worth 10 points. You cannot participate in any of the course's assignments involving data collection and analysis (described in IV-VI below) without this certificate.

4. ***Assignments (10%): Assesses Course Learning Outcomes #3, #4, and #5***

Utilizing Excel and/or SPSS statistical software, you will complete four statistical analyses. All output write ups need to be completed in APA format and submitted via Canvas before class on the due date (see course

schedule).

5. ***Proposal presentation (20%): Assesses Course Learning Outcome #5***

During the last week of classes, you will be expected to present your thesis/capstone project topic in a formal proposal environment. This session is open to all faculty and your classmates. Your grade for this presentation will be based on the quality of your presentation and mastery of the material, your ability to respond to content questions from the audience, and your overall professionalism.

6. ***Proposal documents (20%): Assesses Course Learning Outcome #7***

The culmination of your semester's work will be a completed proposal document to be submitted via Canvas. This document will be graded based on quality of content, the degree to which you have addressed all the major aspects of your thesis/project topic, and your ability to meet department guidelines for completed thesis/capstone project. Your proposal document should include the following items and will be due in parts at various dates throughout the semester:

- Research Question(s): You will identify your question of interest for the Proposal Project.
- Literature Review
- Proposed Methods and Data Analysis (student must meet with their advisor prior to submitting this document)
- Rough Draft of Project Proposal with Introduction
- Final Project Proposal (written)

1. ***Mid-Term Examination (10%): Assesses Course Learning Outcomes #1-3***

A unit examination will be administered online on Canvas to formatively measure your mastery of key aspects of the course (i.e., experimental design and statistical analysis using SPSS) after Module 8 (see calendar for exact date).

1. ***Final Exam/Assignment (20%): Assesses Course Learning Outcomes #1-4, #6***

The final exam will be given at the end of the quad and will be summative over the course content covered in class with emphasis on material covered in weeks 10-13. This exam will be distributed via Canvas one week before the scheduled exam date to allow you adequate time to review the material and prepare your answers. You are free to work in groups or ask for help from the instructor. **However, the final written answers should be in your own words!**

INCOMPLETE AND LATE ASSIGNMENTS

All assignments are to be submitted via Canvas by the due date and time listed in the calendar.

Late work (turned in any time after the due date and time) may be turned in until the last day of class, for a maximum of 50% credit (this is still a failing grade but is better than zero points).

Missed exams may ONLY be made up with a legal, written excuse. A missed exam for an approved reason MUST be completed prior to the subsequent module.

CREDIT HOUR INFORMATION

Distribution of Contact Hours

Course Assignments	Pre-Class Hours	Class Hours	Post-Class Hours
Class Sessions		20	
Online Participation in forums, groups, etc.	10		10
Reading	10	5	10
Writing		5	10
Other Assignments & Learning Activities	10	5	10
Exams & Quizzes	4	4	0
<i>Total Course Hours: 113</i>	34	39	40

Grading Points

Course Assignments	Points
Discussion Board	60
Online Quizzes	40

Human Subjects Protection Certification	10
Assignments	40
Mid-Term Examination	50
Proposal Presentation	100
Proposal Documents	100
Final Exam Assignment	100
Total Course Points: 500	

NOTE: It is your responsibility to maintain your class schedule. Should the need arise to drop this course (personal emergencies, poor performance, etc.), you have the responsibility to first contact the professor. Then if no accommodations can be made, you are responsible to follow through (provided the drop date meets the stated calendar deadline established by the university).

Grade Scale

A	461-500	B-	396-410	D+	331-345
A-	446-460	C+	381-395	D	311-330
B+	431-445	C	361-380	D-	296-310
B	411-430	C-	346-360	F	0-295

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 HONESTY

Students should demonstrate academic honesty by doing original work and by giving appropriate credit to the ideas of others. As stated 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. Such acts include plagiarism, copying of class assignments, and copying or other fraudulent behavior on examinations. 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." See [Academic Policies](#) for full text.

ATTENDANCE AND PARTICIPATION POLICY

Regular and punctual attendance at all classes is considered essential to optimum academic achievement. If the student is absent from more than 10 percent of class meetings, the faculty member can file a written report which may result in 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](#) for full text. Since this is a blended course of face-to-face and online class meetings, participation in the online modules will be counted as part of the week's attendance record above and beyond the face-to-face time. Participation in an online module may be done by completing a quiz, participating in the Discussion in Canvas, or submitting a completed assignment. Missing two online days during the course will constitute 10% of the course being missed; missing three online days will constitute 20% of the course being missed. Face-to-face time will be determined by actual hours.

ACADEMIC STANDING

Graduate students at Point Loma must obtain a 3.0 GPA to remain in good standing in the MS Kinesiology program:

http://catalog.pointloma.edu/content.php?catoid=20&navoid=1403#Academic_Standing.

Additionally, all graduate students need to earn a C or higher in all graduate courses according to the catalog grading policy:

ACADEMIC ACCOMMODATIONS

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

accommodations or 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 Rm. 312C at the Mission Valley Regional Center via DRC@pointloma.edu or 619.849.2533. The DRC's policies and procedures for assisting such students in the development of an appropriate Accommodation Plan (AP) allows PLNU to comply with Section 504/508 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 and official disability documentation, the DRC will contact the student within 15 business days to schedule an AP meeting. During the AP meeting an Accommodation Plan will be established to meet the student's specific disability-related needs. The DRC will thereafter email the student's AP to all faculty who teach courses in which the student is enrolled each quad/semester. The AP must be implemented in all such courses by faculty. All questions should be directed to the DRC for clarification.

SPIRITUAL CARE

PLNU strives to be a place where you grow as whole persons. To this end we provide resources for our graduate students to encounter God and grow in their Christian faith. At the Liberty Station campus we have an onsite chaplain, Rev. Wil Ryland who is available during class break times across the week. If you have questions, desire to meet with Rev Ryland or prayer requests you can contact him directly at gradchaplainlibertystation@pointloma.edu. In addition, there are resources for your Christian faith journey available on the [Graduate Student Life](#) webpage.

FINAL EXAMINATION POLICY

Successful completion of this class requires submitting the completed final examination **on its scheduled day**.

INFORMATION LITERACY

The curriculum of the MS-KIN is designed so that you develop skills in scientific writing, performing statistical analysis of data, reading and critically appraising primary literature, and incorporating current best evidence into your professional practice. Not all information is equally sound or applicable to your practice. Various assignments within this course are designed to accomplish the goal of informational literacy—to evaluate the validity and importance of information obtained from any source and use the information appropriately to solve relevant problems. These assignments include: SPSS Output Reports, in-class article discussions, in-class discussion of experimental design, review of the literature related to your proposal, presentation of proposal. We will regularly direct you to the Ryan Library to accomplish these assignments

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](#) page.

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

If you do need technical help, you may click on the HELP button (located on the top-right corner of Canvas) and choose from whom you want assistance, or you may contact the campus helpdesk (619-849-2222).