



School of Nursing

GNSG 7002: Applied Statistics in Health Science (2 units)

Fall 2023

Meeting days: Online	Instructor contact info Lori Ballantyne, DNP, RN-BC Part-time Instructor Email: lballant@pointloma.edu Telephone: 612-275-5303 (C)
Meeting times: Asynchronous meetings with optional synchronous zoom: Thursdays 5:00 PM – 7:00 PM	
Meeting location: Online	
Placement: Graduate Semester 1	Office location and hours Call or text to set up a zoom meeting or phone call
Final Exam: online	

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.

SON Vision Statement

The School of Nursing at Point Loma Nazarene University embraces, as a covenant, the commitment to excellence within a dynamic Christian environment in which each one will engage in the sacred work of nursing. This sacred work involves symbolically removing one's shoes in service of others.

Take off your sandals for the place you are standing is holy ground. Exodus 3:5 NIV

SON Mission Statement

The School of Nursing at Point Loma Nazarene University exists to support the university Wesleyan mission and to provide an interdisciplinary learning program of excellence. Graduates of the SON are distinctly identified by grace, truth and holiness, serving others after the example of Christ, as they are sent to fulfill their calling as professional nurses.

So He got up from the meal, took off His outer clothing, and wrapped a towel around His waist.

After that, He poured water into a basin and began to wash His disciple's feet, drying them with a towel that was wrapped around Him. John 13: 4-5 NIV

Now that I, your Lord and Teacher, have washed your feet, you also should wash one another's feet. I have set you an example that you should do as I have done for you. John 13: 14-15 NIV

Faculty reserves the right to make necessary schedule changes to this syllabus as the semester progresses.

Every attempt will be made to minimize the inconvenience to the student in the event of a change to the syllabus. Students will be notified of changes via Canvas announcement section, with accompanying email notification, in a timely manner.

COURSE DESCRIPTION ☉

This course focuses on understanding and interpreting commonly used statistical procedures reported in the literature of various health professions. Content will include descriptive and inferential statistics of univariate and multivariate analyses. Students will acquire knowledge and skills in applying each statistical procedure, its use, interpreting results, and evaluating the study report. Letter Grade

PROGRAM LEARNING OUTCOMES

Upon completion of the program, you will be able to achieve the following outcomes:

PLO 1: Inquiring Faithfully
The student will demonstrate knowledge, skill and behavior of the evidence-based practice of nursing which integrates growth in reasoning, analysis, decision-making and the application of theory with the goal of advocating for others and/or self. This includes holistic nursing skills and the nursing process
PLO 1.1. Advance nursing practice by integrating scientific findings to promote patient outcomes and wellness
PLO 1.2. Apply advanced specialty knowledge to evidence and clinical judgment in the delivery of care
PLO 2: Caring Faithfully
The student will embrace a calling to the ministry of compassionate care for all people in response to God's grace, which aims to foster optimal health and bring comfort in suffering and death.
PLO 2.1. Role model Christian servant leadership through holistic compassionate care
PLO 2.2. Advocate for ethical principles in promoting health of diverse individuals and populations
PLO 3: Communicating Faithfully
The student will actively engage in the dynamic interactive process that is intrapersonal and interpersonal with the goal of advocating for others and/or self. This includes effective, culturally appropriate communication conveys information, thoughts, actions and feelings through the use of verbal and nonverbal skills
PLO 3.1. Analyze information and communication technologies to facilitate optimal care of patients, nurses, and organizations
PLO 3.2. Lead interprofessional healthcare teams to influence positive patient outcomes across the lifespan
PLO 4: Following Faithfully
Defined as claiming the challenge from Florence Nightingale that nursing is a "divine imposed duty of ordinary work." The nursing student will integrate the ordinary

work by complying with and adhering to regulatory and professional standards (e.g. ANA Code of Ethics, the California Board of Registered Nursing, Scope of Nursing Practice, SON Handbook). This includes taking responsibility, being accountable for all actions and treating others with respect and dignity.
PLO 4.1. Design and implement health policies to improve care of diverse patients, communities, and populations
PLO 4.2. Expand professional nursing expertise through self-reflection, accountability, and life-long learning processes
PLO 5: Leading Faithfully
The student will incorporate a foundational relationship with Christ and others and embrace a willingness to serve others in the midst of life circumstances (e.g., illness, injustice, poverty). The student will role-model the need for “Sabbath Rest” as a means of personal renewal, and true care of the self, so that service to others is optimally achieved. The student will incorporate the characteristics of a servant leader including: humility, courage, forgiveness, discernment.
PLO 5.1. Champion systems leadership to enhance access, quality, and cost effectiveness across the healthcare delivery continuum
PLO 5.2. Lead evidence-based, quality improvement initiatives to advance nursing practice and optimize patient safety

COURSE LEARNING OUTCOMES ☉

This course is mapped to the:

- AACN Essentials (AACN, 2021); Domains (competencies, sub-competencies);
- NACNS Core Competencies (NACNS, 2019): Patient Direct Care Sphere (P); Nurses and Nursing Practice Sphere (N); Organization/System Sphere (O)
- NONPF Core Competencies (NONPF, 2022)
- Graduate Program Learning Outcomes (PLOs)

Upon completion of this course, you will be able to:

1. Interpret descriptive and inferential statistical findings in healthcare research.

AACN Essentials: Domains: 1 (1.1e, 1.2f, 1.2j, 1.3e); 3(3.1k); 4(4.1h, 4.2f, 4.2k);

5 (5.1i, 5.1l, 5.2g, 5.2h); 7(7.2j, 7.3f); 8(8.2f, 8.2h, 8.2j)

NACNS Competencies: P11, N7, N8, N11, O4, O6, O9

NONPF Core Competencies: NP 1.1i, NP 1.2l, NP 1.3f, NP 3.1o, NP 4.1o, NP 8.2k, NP 8.2l,

PLOs: 1.1, 1.2, 3.1, 5.2

2. Use Microsoft Excel and statistical software to clean, organize, and analyze healthcare data.

AACN Essentials: Domains: 7(7.2j, 7.3f); 8(8.2f, 8.2h, 8.2j)

NACNS Competencies: P11, N8, N11, O6, O9

NONPF Core Competencies: NP 1.1i, NP 1.2l, NP 3.1o, NP 4.2l, NP 8.2k, NP 8.2l,
PLOs: 1.1, 1.2, 3.1, 5.2

3. Apply statistical techniques to evaluate healthcare outcomes and quality improvement.

AACN Essentials: Domains: 1 (1.1e, 1.2f, 1.2j, 1.3e); 3(3.1k); 4(4.1h, 4.2f, 4.2k);
5 (5.1i, 5.1l, 5.2g, 5.2h); 7(7.2j, 7.3f); 8(8.2f, 8.2h, 8.2j)

NACNS Competencies: P11, N8, N11, O6

NONPF Core Competencies: NP 1.1i, NP 1.2l, NP 2.7i, NP 3.1o, NP 3.1p, NP 8.2k,
PLOs: 1.1, 1.2, 3.1, 5.2

4. Differentiate between statistical inference and clinical significance in hypothesis testing.

AACN Essentials: Domains: 1 (1.1e, 1.2f, 1.2j, 1.3e); 3(3.1k); 4(4.1h, 4.2f, 4.2k);
8(8.2f, 8.2h, 8.2j)

NACNS Competencies: P11, N8, N11, O6

NONPF Core Competencies: NP 1.1i, NP 1.2l, NP 1.3f, NP 3.1o, NP 4.1o, NP 8.2k,
PLOs: 1.1, 1.2, 3.1, 5.2

5. Interpret various measures of association between exposure or risk factors and health outcomes.

AACN Essentials: Domains: 1 (1.1e, 1.2f, 1.2j, 1.3e); 3(3.1k); 4(4.1h, 4.2f, 4.2k);
5 (5.1i, 5.1l, 5.2g, 5.2h); 7(7.2j, 7.3f); 8(8.2f, 8.2h, 8.2j)

NACNS Competencies: P11, N8, N11, O6, O12

NONPF Core Competencies: NP 1.1i, NP 1.2l, NP 3.1o, NP 3.1p, NP 4.2l, NP 8.2k,
PLOs: 1.1, 1.2, 3.1, 5.2

REQUIRED TEXTS AND RECOMMENDED STUDY RESOURCES

Kim, M., Mallory, C., & Valerio, T. D. (2022). Statistics for evidence-based practice in Nursing (3rd ed). Jones & Bartlett Learning. ISBN-13: 978-1-284-19467-8

COURSE CREDIT HOUR INFORMATION ⊕ (online course only)

In the interest of providing sufficient time to accomplish the stated Course Learning Outcomes, this class meets the PLNU credit hour policy for a 2-unit class delivered over 16 weeks. Specific details about how the class meets the credit hour requirement can be provided upon request.

ASSESSMENT AND GRADINGⓈ

Assignments	Points	Points (%)
• Individual Assignments	15 pts for 14	210 (51)
• Discussions	10 pts for 13	130 (32)
• Quizzes	10 pts for 4	40 (10)
• Final quiz	30 pts	30 (7)
Total		410 (100)

GRADING POLICIESⓈ

Grading Scale to be used for all exams and final course grades:

93-100%	=	A	
90 - 92%	=	A-	
87 - 89%	=	B+	
84 - 86%	=	B	
*81 - 83%	=	B-	Graduate Programs
78 - 80%	=	C+	
*75 - 77%	=	C	
73 - 74%	=	C-	
71 - 72%	=	D+	
68 - 70%	=	D	
Below 68%	=	F	

- All assigned coursework must be completed to receive a final course grade and progress in the program.
- In order to receive a passing grade in a GNSG course, a student must achieve a cumulative average of 81% on **exams and quizzes**.
- Students must achieve a minimum grade of B- in all GNSG courses in order to progress in the program.
- Calculation OF GRADEs: Grades/points will not be rounded. For example, 80.5% does not round to 81% resulting in a grade of C+ instead of a B-.
- Students who receive less than a 81% average on exams and quizzes will receive a course grade of no higher than "C+", regardless of total points accrued through written projects and other course assignments.
- EXAMS AND QUIZZES: Students must earn a minimum cumulative average on all exams and quizzes in order to pass the course, regardless of total points accrued through written projects and other course assignments.

CONTENT WARNING

I acknowledge that each of you comes to PLNU with your own unique life experiences. This contributes to the way you perceive various types of information. In this *GNSG 7002 Statistics and Data Analysis* course, all of the class content, including that which may be intellectually or emotionally challenging, has been intentionally curated to achieve the learning goals for this course. The decision to include such material is not taken lightly. These topics include descriptive statistics, inferential statistics, and statistical significance. If you encounter a topic that is intellectually challenging for you, it can manifest in feelings of discomfort and upset. In response, I encourage you to come talk to me or your friends or family about it. Class topics are discussed for the sole purpose of expanding your intellectual engagement in the area of statistics and data analysis, and I will support you throughout your learning in this course.

TRIGGER WARNING

I acknowledge that each of you comes to PLNU with your own unique life experiences. This contributes to the way you perceive several types of information. In this *GNSG 7002 Statistics and Data Analysis* course, we will cover a variety of topics, some of which you may find triggering. These topics include descriptive statistics, inferential statistics, and statistical significance. Each time this topic appears in a reading or unit, it is marked on the syllabus. The experience of being triggered versus intellectually challenged are different. The main difference is that an individual must have experienced trauma to experience being triggered, whereas an intellectual challenge has nothing to do with trauma. If you are a trauma survivor and encounter a topic in this class that is triggering for you, you may feel overwhelmed or panicked and find it difficult to concentrate. In response, I encourage you to take the necessary steps for your emotional safety. This may include leaving class while the topic is discussed or talking to a therapist at the Counseling Center. Should you choose to sit out on discussion of a certain topic, know that you are still responsible for the material; but we can discuss if there are other methods for accessing that material, and for assessing your learning on that material. Class topics are discussed for the sole purpose of expanding your intellectual engagement in the area of statistics and data analysis, and I will support you throughout your learning in this course.

INCOMPLETES AND LATE ASSIGNMENTS

All assignments are to be submitted by the due dates. There will be a 10% reduction of possible points for **each day** an assignment is late and assignments will **not be** accepted for credit, four days after the due date. Day 1 starts on the specified due date/time. Assignments will be considered late if posted after the due date and time using Pacific Standard Time. No assignments will be accepted after 2359 on Sunday night of the last week of class. Incompletes will only be assigned in extremely unusual circumstances.

PLNU SPIRITUAL CARE

Liberty Station Campus:

PLNU strives to be a place where you grow as a whole person. To this end we provide resources for our Graduate students to encounter God and grow in their Christian faith. At the Mission Valley (MV) campus we have an onsite chaplain, Rev. Gordon Wong, who is available during class break times across the week. If you have questions for, desire to meet or share a prayer request with Rev. Wong you can contact him directly at mvchaplain@pointloma.edu or gordonwong@pointloma.edu. Rev. Wong's cell number is 808-429-1129 if you need a more immediate response.

STATE AUTHORIZATION (⊕ FOR FULLY ONLINE COURSES ONLY)

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 [Graduate Academic and General Policies](#) for definitions of kinds of academic dishonesty and for further policy information.

During the first week of class, you will be asked to submit an Academic Honesty Verification Statement. Submitting the statement is a requirement of this course. By submitting the Academic Honesty Verification Statement, you will be verifying all

assignments completed in this course were completed by you. Carefully review the Academic Honesty Statement below.

Statement: "In submitting this form, I am verifying all the assignments in this course will be completed by me and will be my own work."

ARTIFICIAL INTELLIGENCE (AI) POLICY)

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.

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

Point Loma Nazarene University faculty are committed to helping create a safe learning environment for all students. 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 help and support 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, it is 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

PLNU ATTENDANCE AND PARTICIPATION POLICY ☼

Regular and punctual attendance at all class sessions is considered essential to optimum academic achievement. Therefore, regular attendance and participation in each course are minimal requirements.

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.

Students who anticipate being absent for an entire week of a course should contact the instructor in advance for approval and make arrangements to complete the required coursework and/or alternative assignments assigned at the discretion of the instructor. Acceptance of late work is at the discretion of the instructor and does not waive attendance requirements.

Refer to [Academic Policies](#) for additional detail.

ONLINE ASYNCHRONOUS ATTENDANCE/PARTICIPATION DEFINITION

Students taking online courses with no specific scheduled meeting times are expected to actively engage throughout each week of the course. Attendance is defined as participating in an academic activity within the online classroom which includes, but is not limited to:

- Engaging in an online discussion
- Submitting an assignment
- Taking an exam

- Participating in online labs
- Initiating contact with faculty member within the learning management system to discuss course content

Note: Logging into the course does not qualify as participation and will not be counted as meeting the attendance requirement.

USE OF TECHNOLOGY ☼

In order to be successful in the online or hybrid 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, microphone, or webcams compatible with their computer available to use. Please note that any course with online proctored exams require a computer with a camera (tablets are not compatible) to complete exams online.

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

SCHOOL OF NURSING

PROFESSIONAL STANDARDS

Students are required to adhere to professional standards while students at PLNU. The nursing department had developed these standards to provide clarification of expected professional behaviors.

1. Presenting yourself professionally in interactions with all persons
2. Behaving with honesty and ethics
3. Respectful communication techniques
4. Being proactive versus reactive
5. Accepting accountability for one's own actions
6. Being prepared and punctual

Additional guidelines

Social networking sites are a great way to connect with many others. These sites can be used to your disadvantage and all persons are advised to employ professional standards on these sites. A general rule would be if what you have posted does not enhance your professional image then it probably needs to be reviewed.

The use of Laptops, cell phones and other electronic devices is at the discretion of the course instructor. Generally, it is considered inappropriate to use any device for alternate uses not related to the class being taught. Cell phones should be kept on vibrate or silent during class times unless arrangements have previously been made.

Speaking negatively, relating stories or presenting a biased viewpoint about any class, instructor or other student that is not supportive of the individual involved and can be perceived as incivility. Disagreements are a part of life- but should be worked through

in a private manner. Questioning the integrity of a persons' character is disrespectful. Each person is responsible and accountable for their words and actions.

Plagiarism or cheating in any class (nursing or non-nursing) will have consequences within the School of Nursing. Disciplinary action will be at the discretion of the instructor, the guidance of the Graduate Associate Dean and/or Dean of the School of Nursing and may include assignment/class failure and possible dismissal from the program.

COURSE Content Outline (Topic Outline)

Initiation of Learning Module: **Mondays**

Discussions: Initial posting due **Thursday by 11:59PM** and response posting due **Sundays by 11:59PM**

Assignments: due **Sundays by 11:59PM**

ASSIGNMENTS AT-A-GLANCE

The course summary below lists the assignments and their due dates.

Week	Content/Readings	Assignments
1 Aug 28	Course Overview Readings: Kim et al., Chapters 1, 2, and 3	Verification Introduction discussion Quiz on Level of Measurement
2 Sep 4	Readings: Kim et al., Chapter 4 Optional zoom meeting – 9/7	Data Dictionary Downloading an Excel File
3 Sep 11	Readings: Kim et al., Chapter 5	Excel discussion Organizing and displaying data
4 Sep 18	Readings: Kim et al., Chapter 5 Optional zoom meeting – 9/21	Discussion on graphs and charts Displaying data
5 Sep 25	Readings: Kim et al., Chapter 6 Other readings as assigned	Central Tendency Variability
6 Oct 2	Readings: Kim et al., Chapter 6 Optional zoom meeting – 10/5	Quiz Boxplots
7 Oct 9	Readings: Kim et al., Chapter 7 Optional zoom meeting – 10/12	Hypothesis Testing Quiz Effect size/confidence interval discussion

8 Oct 16	Readings: Kim et al., Chapter 8 Other readings as assigned	Missing data/outlier discussion Assumptions of parametric tests
9 Oct 23	Readings: Kim et al., Chapter 15 Other readings as assigned	Statistical mistakes' discussion Quiz
10 Oct 30	Readings: Kim et al., Chapter 9 Other readings as assigned	Correlation discussion Correlation calculation
11 Nov 6	Readings: Kim et al., Chapter 10 Optional zoom meeting - 11/9	Regression discussion Interpreting regression output
12 Nov 13	Readings: Kim et al., Chapter 11 Other readings as assigned	T-test discussion T-test calculations
13 Nov 20	Readings: Kim et al., Chapter 11 Other readings as assigned	ANOVA discussion ANOVA calculations
14 Nov 27	Readings: Kim et al., Chapter 12 Optional zoom meeting - 11/30	ANCOVA discussion Summary Chart
15 Dec 4	Readings: Kim et al., Chapters 13 and 14	Nonparametric tests' discussion Chi square calculation
16 Dec 11	No required readings	Final Quiz Course reflection discussion
