


Syllabus

To-Do Date: May 11 at 8:59am

 <p>POINT LOMA NAZARENE UNIVERSITY</p>	<p>MTH2003 - 1 Introduction to Statistics</p> <p>3 Units</p> <p>Prerequisites Mathematics 099 (or equivalent)</p>
<p>Summer 2020 Session 1 May 11- June 12</p>	

<p>Instructor: Dr. Ryan Botts, Ph.D.</p>
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<p>Office hours: By Appointment in Zoom</p>

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.

Department Mission

The Mathematical, Information, and Computer Sciences department at Point Loma Nazarene University is committed to maintaining a curriculum that provides its students with the tools to be productive, the passion to continue learning, and Christian perspectives to provide a basis for making sound value judgments.

COURSE DESCRIPTION

A first course in statistics for the general student. Description of sample data, probability theory, theoretical frequency distributions, sampling, estimation, and hypothesis testing. Not applicable toward a major in mathematics.

COURSE LEARNING OUTCOMES

1. Students will be able to apply their technical knowledge to solve problems.
2. Students will be able to compute measures of central tendency for data.
3. Students will be able to compute measures of dispersion for data.
4. Students will be able to use statistical methods to test hypotheses.
5. Students will be able to understand and create arguments supported by quantitative evidence, and they can clearly communicate those arguments in a variety of formats.

REQUIRED TEXTS AND RECOMMENDED STUDY RESOURCES

***The Basic Practice of Statistics, 8th ed.* by Moore, Notz and Fligner (Sapling+)**

ISBN:9781319057985

- A cheap calculator other than your phone, tablet, pad, or computer (with at least a square root key)
- Laptop or access to a computer with Java enabled in the web browser
- Statistical Software (there are many options for purchase locations, here are examples):
 - There are many websites selling many flavors of Excel. For instance you could search Google for “Buy Excel Home” and click the Shopping bar at the top of the page.
 - <http://cran.r-project.org/bin/windows/base/> [_\(http://cran.r-project.org/bin/windows/base/\)](http://cran.r-project.org/bin/windows/base/) (free)
 - <http://cran.r-project.org/bin/macosx/> [_\(http://cran.r-project.org/bin/macosx/\)](http://cran.r-project.org/bin/macosx/) (free)
 - There are many websites selling many flavors of SPSS. For instance you could search Google for “Buy SPSS Base Grad pack” and click the Shopping bar at the top of the page.
 - Excel
 - R
 - SPSS

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 3 unit class delivered over five weeks. Specific details

about how the class meets the credit hour requirement can be provided upon request. (Based on 37.5 hours of student engagement per credit hour.)

Distribution of Student Learning Hours

Category	Time Expectation in Hours
Video Notes & Activities	18.75
Exams	3.75
Final	2.5
Required Reading	30
Labs	5
Homework	60
Total Hours	120

ASSESSMENT AND GRADING

Graded Components

- **Labs:** The labs are due at the scheduled dates and times, and are submitted **ONLY** in **Word, Excel, or .pdf** format in **Canvas** (e.g. **Google Docs and Apple Numbers** are not permitted).
- **Homework:** Homework will be completed in Sapling, available through the online access key.
- **Notes and Videos:** Each section will have videos to watch and you should take notes. Your notes will be submitted in a weekly Canvas Discussion to provide evidence you are keeping up.
- **Examinations and the Final Examination.** Examinations and the Final Examination will include problems and questions over material assigned in the text, readings and handouts, as well as material presented in class. No examination shall be missed without prior consent or a well-documented emergency beyond your control. A score of zero will be assigned for an examination that is missed without prior consent or a well-documented emergency beyond your control.
- **Late work will not be accepted** without prior consent or a well-documented emergency. Up to a maximum of one homework assignment will be accepted up to 3 days late provided that consent is received from the professor before it is due. Homework assignments that are submitted late without prior consent will be recorded with a score of zero. If more than half of the homework assignments are submitted on time, then the lowest homework score will be dropped from the calculations of the homework grade.
- The examination schedule is included in the daily schedule. This instructor does not intend to accept excuses such as poor communication with parents, benefactors, surf team sponsors and/or travel agents.

Grading Distribution	Percent
Two Examinations at 17.5% each	35
Final Exam	30
Lab Final Examination	6
Labs	9
Homework	15
Videos Notes	5
Total	100

Grading scale

Grades are based on the number of points accumulated throughout the course with the following exception. A student must pass at least one of Exam 1, Exam 2, or the Final Exam in order to pass the class. That is, a score of 60% must be achieved on one of the Exams, or else the final grade will be an F regardless of all other point totals. Approximate minimal percentages required to obtain a given grade are:

Standard Grade Scale Based on Percentages

	A	B	C	D	F
+		87.5- 90	77.5-80	67.5-70	
	92.5 -100	82.5-87.5	72.5-77.5	62.5 -67.5	0-60
-	90-92.5	80-82.5	70-72.5	60-62.5	

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

INCOMPLETES AND LATE ASSIGNMENTS

All assignments are to be submitted/turned in by the beginning of the class session when they are due—including assignments posted in Canvas. Incompletes will only be assigned in extremely unusual circumstances.

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 [Academic Policies \(http://catalog.pointloma.edu/content.php?catoid=18&navoid=1278\)](http://catalog.pointloma.edu/content.php?catoid=18&navoid=1278) for definitions of kinds of academic dishonesty and for further policy information.

PLNU ACADEMIC ACCOMMODATIONS POLICY

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 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 the Bond Academic Center. (DRC@pointloma.edu [. \(https://mail.google.com/mail/?view=cm&fs=1&tf=1&to=DRC@pointloma.edu\)](https://mail.google.com/mail/?view=cm&fs=1&tf=1&to=DRC@pointloma.edu) or 619-849-2486). The DRC's policies and procedures for assisting such students in the development of an appropriate academic adjustment plan (AP) allows PLNU to comply with Section 504 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 documentation, the DRC, in conjunction with the student, will develop an AP to meet that student's specific learning needs. The DRC will thereafter email the student's AP to all

faculty who teach courses in which the student is enrolled each semester. The AP must be implemented in all such courses.

If students do not wish to avail themselves of some or all of the elements of their AP in a particular course, it is the responsibility of those students to notify their professor in that course. PLNU highly recommends that DRC students speak with their professors during the first two weeks of each semester about the applicability of their AP in that particular course and/or if they do not desire to take advantage of some or all of the elements of their AP in that course.

PLNU ATTENDANCE AND PARTICIPATION POLICY

Students taking online courses are expected to attend each week of the course. Attendance is defined as participating in an academic activity within the online classroom which includes posting in a graded activity in the course. (Note: Logging into the course does not qualify as participation and will not be counted as meeting the attendance requirement.)

Students who do not attend at least once in any 3 consecutive days will be issued an attendance warning. Students who do not attend at least once in any 7 consecutive days will be dropped from the course retroactive to the last date of recorded attendance.

SPIRITUAL CARE

Please be aware PLNU strives to be a place where you grow as whole persons. To this end, we provide resources for our students to encounter God and grow in their Christian faith.

If students have questions, a desire to meet with the chaplain or have prayer requests you can contact the [Office of Spiritual Development](https://www.pointloma.edu/offices/spiritual-development) .(<https://www.pointloma.edu/offices/spiritual-development>)

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://canvas.pointloma.edu/courses/50057/pages/technology-and-system-requirements) (<https://canvas.pointloma.edu/courses/50057/pages/technology-and-system-requirements>) information.

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

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
5/10/20	5/11/20	5/12/20	5/13/20	5/14/20	5/15/20	5/16/20
		Live Zoom Intro Lab	Ch. 1 Picturing Data Ch. 2 Describing Data Lab 1	Ch. 4 Correlation Ch. 5 Regression Ch. 6 Two-way tables	Due: Intro Lab & Lab 1 HW 1: Ch 1 & 2 HW 2: Ch.4, 5 & 6	
5/17/20	5/18/20	5/19/20	5/20/20	5/21/20	5/22/20	5/23/20
		Ch. 8 Sampling Ch. 9 Experiments Lab 2	Ch. 3 Normal Distribution	Review Live Zoom	Exam 1 Due: HW 3: Ch 8 & 9 HW 4: Ch 3	
5/24/20	5/25/20	5/26/20	5/27/20	5/28/20	5/29/20	5/30/20
	Memorial Day	Ch. 15 Sampling Distr. Ch. 16 Confidence Int.	Ch. 17 Hypothesis Tests Ch. 18 Inference in Practice	Ch. 20 Inf. About a Mean	Due: HW 5: Ch 15 & 16 HW 6: Ch 17 & 18 HW 7: Ch 20	
5/31/20	6/1/20	6/2/20	6/3/20	6/4/20	6/5/20	6/6/20
		Ch. 21 Comp 2 Means Ch. 27 Inf. About Several Means Lab 3	Ch. 22 Inf. About a Prop. Ch. 23 Comparing 2 Prop.	Review Live Zoom	Exam 2 Due: Lab 3 HW 8: Ch 21 & 22 HW 9: Ch 22 & 23	
6/7/20	6/8/20	6/9/20	6/10/20	6/11/20	6/12/20	6/13/20
		Ch. 25 Chi-Square Lab 4	Lab Final	Review Live Zoom	Final Exam Lab 4 HW 10: Ch 25	