California Lutheran University

Bachelor's Degree for Professionals

ECON 311 STATISTICAL METHODS

Term: **Winter (November 23 to February 18), 2016**
Location: **Oxnard Campus, Room 125**
Day & Time: **Thursdays 6-9:30 PM**

Drop Dates:	Monday, December 7	Last day to add; last day to drop (without a "W"); Last day to drop without financial penalty (100% tuition charge for classes dropped after this date)
	Tuesday, January 19	Last day to withdraw without academic penalty; Last day to remove incompletes from Summer term

Instructor: **Cynthia Counter, Adjunct Senior Lecturer**
Contact Information: ccounter@callutheran.edu ; (805) 889-2398 (cell: voice mail & text)
Office Hours & Location: Before class and by appointment

Course Description

This course provides students with an introduction to the field of statistics by discussing the basic methods in analysis of central tendency, dispersion, probability distributions, and inferential statistics. It stresses concepts and applications using technology (EXCEL), although some basic mathematical foundations will be discussed. This course covers basic probability theory (discrete and continuous), descriptive statistics (numerical and graphical methods), interval estimation, hypothesis testing, analysis of variance (ANOVA), and simple linear regression. The prerequisite for this course is Math 115 Finite Math.

Textbooks/Required Readings

There is no required textbook for this course. All readings are my own written lessons that are available in pdf format on Blackboard (Bb), CLU's online learning platform, accessed through your CLU Portal.

Course Outcomes

By the end of the course students will gain **quantitative literacy** by being able to:

1. Compute probabilities of simple and compound events; compute probabilities from binomial, hypergeometric, and normal distributions.
2. Apply descriptive statistics to summarize both qualitative and quantitative data sets. For qualitative data sets this includes constructing frequency distributions, pie charts, and bar charts; and calculating sample proportions. For quantitative data sets this includes finding the mean, median, mode, range, variance, and standard deviation; and constructing a frequency distribution and histogram.
3. Compute point estimates and construct interval estimates for proportions and means; estimate sample sizes.
4. Conduct hypothesis tests to test claims about proportions and means.

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5. Conduct hypothesis tests to test claims concerning two proportions or two means from two independent populations.
6. Conduct hypothesis tests to test claims concerning two means from dependent (matched) samples.
7. Perform analysis of variance to test claims concerning three or more means from independent samples.
8. Perform simple linear correlation and regression.

Class Format

This course is primarily a traditional course, but with some pre-recorded lectures in the form of YouTube videos that are a combination of foundational concepts and applications of statistical methods using EXCEL. However, it will make extensive use of CLU's online learning platform, Blackboard (Bb). All course materials will be available on Blackboard, and all assignments will be submitted through Bb. See the end of this syllabus for computer requirements to access Bb.

Class meetings will be a mixture of mini lectures explaining concepts, and guided demonstrations applying statistical methods using EXCEL. The class is NOT taught in a computer lab, so students will need to bring a laptop with EXCEL to class. A PC is recommended. The last part of class time will be available for students to work on graded assignments with the instructor present to answer questions and offer guidance. See the end of this syllabus for computer requirements for EXCEL.

Course Assignments/Requirements/Course Schedule

Required Readings

No textbook is required for the course, but readings in pdf format will be assigned and available on Blackboard. The readings include theory and examples.

YouTube Videos

Each week will feature one or more YouTube videos that focus on using EXCEL to work problems like the ones on the graded assignments.

Quizzes

There is an online quiz for each of the ten lessons. Each quiz may be taken multiple times, and contains multiple choice, matching, and true/false questions concerning concepts and vocabulary. Only the highest score for each quiz will count towards the final course grade.

Graded Assignments

There is a graded assignment for each lesson. All assignment should be performed using EXCEL, and should be turned in electronically via Bb as an EXCEL document. If the submitted assignment is not fully correct, the instructor will provide hints and suggestions so that it may be corrected and resubmitted for full credit.

Projects

You will use EXCEL to work on seven small projects during the course. For these projects you will gather your own data. Some of the projects involve probability, and some involve

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descriptive and inferential statistical analysis of qualitative and quantitative data sets that you collect. Each project will correspond to a specific lesson with details posted on Bb.

Midterm

An online midterm exam covers concepts and vocabulary for lessons 1 through 4. It may be taken multiple times, and contains multiple choice and matching questions similar to the quizzes. Only the highest score will count towards the final course grade. The best way to prepare for the midterm is to review the quizzes.

Final Exam

An online final exam covers concepts and vocabulary for lessons 5 through 10. It may be taken multiple times, and contains multiple choice and matching questions similar to the quizzes. Only the highest score will count towards the final course grade. The best way to review for the final is to review the quizzes.

COURSE SCHEDULE:

Date	Week	Lesson Topics	Assignments Due
12/3	1	Introduction to Probability	Reading Assignment 1 YouTube Video Quiz 1 Graded Assignment 1 (GA#1)
12/10	2	Discrete Probability Distributions	Reading Assignment 2 YouTube Video Quiz 2 Graded Assignment 2 (GA#2) Project 1 (P#1)
12/17	3	Binomial & Hypergeometric Probability Distributions	Reading Assignment 3 YouTube Video Quiz 3 Graded Assignment 3 (GA#3) Project 2 (P#2)
1/7	4	Continuous Probability Distributions	Reading Assignment 4 YouTube Videos Quiz 4 Graded Assignment 4A (GA#4A) Graded Assignment 4 (GA#4) Midterm
1/14	**5**	Analyzing Qualitative Data	Reading Assignment 5 YouTube Video Quiz 5 Graded Assignment 5 (GA#5) Project 3 (P#3)
1/21	6	Hypothesis Tests for Proportions	Reading Assignment 6 YouTube Video Quiz 6 Graded Assignment 6 (GA#6)

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			Project 4 (P#4)
1/28	7	Describing Quantitative Data	Reading Assignment 7 YouTube Videos Quiz 7 Graded Assignment 7A (GA#7A) Graded Assignment 7 (GA#7) Project 5(P#5)
2/4	8	Estimating Means and Determining Sample Sizes	Reading Assignment 8 YouTube Video Quiz 8 Graded Assignment 8 (GA#8) Project 6 (P#6)
2/11	9	Hypothesis Tests For Means	Reading Assignment 9 YouTube Video Quiz 9 Graded Assignment 9 (GA#9) Project 7 (P#7)
2/18	10	ANOVA and Linear Correlation & Regression	Reading Assignment 10 YouTube Video Quiz 10 Graded Assignment 10 (GA#10) Final Exam

Student Workload/Carnegie Hours:

The expectation for this course is that you will spend the equivalent of 4 hours per week in class (an hour is defined as 50 minutes), and you will spend approximately 9 hours per week studying and completing assignments for this course. (See chart below for estimated breakdown of workload hours.)

Activity	Instructor-Led Hours		Homework Hours		Remarks
	Weekly	Course	Weekly	Course	
Reading Assignments			4 hours	40 hours	Over 10 weeks
Weekly Classes	3.5 hrs	38.5 hrs			Over 11 weeks
YouTube Videos	1.5 hour	11.5 hrs			Over 10 weeks
Online Quizzes			1 hour	10 hours	Average, varies by student
Graded Assignments			3 hours	30 hours	Average, varies by student
Projects			1.6 hrs	16 hours	Average, varies by student
Midterm				2 hours	Average, varies by student
Final				2 hours	Average, varies by student
Total		**50**		**100 hrs**	

** In this chart the Carnegie Instructional Hours have already been converted to traditional clock hours; these are based on a 60-minute clock hour.

Grading

Your final course grade will be a weighted mean computed using the following weights:

CRITERION	PORTION	GRADING SCALE GRADE PERCENTAGE

1. Graded Assignments	30%	A 95-100
		A- 90-94.9
2. Projects	30%	B+ 86-89.9
		B 83-85.9
3. Quizzes	20%	B- 80-82.9
		C+ 76-79.9
4. Midterm Exam	10%	C 73-75.9
		C- 70-72.9
5. Final Exam	10%	

Due Dates, Make up and Late Policy

There are no formal due dates for work, but all work should be completed in a timely manner so that feedback and corrections are possible. The last day for work submissions is, Thursday, February 25th.

Attendance Policy

Attendance is not a formal component of the course grade, but it is crucial for success. It is during class meetings that the instructor will guide students through the problem solving process using EXCEL, and the students will have opportunities to ask the instructor questions and work on the graded assignments.

Cal Lutheran Blended Course Technology Requirements

1. Computer
2. If you need or want portable hardware, you can check out a laptop or iPad at the library for the entire semester.
    a. A first-generation iPad is sufficient for participating in this course.
3. To watch Pre-recorded lectures
4. Operating System Windows or Mac OSX
5. Applications Microsoft Silverlight or Windows Media Player
6. Bandwidth
    a. 50Kbps: Audio-only recording
    b. 300Kbps: Recording consisting of screen capture, audio, and video
    c. 500Kbps: Recordings with multiple video streams
7. Speakers or headphones
8. To access the course site
9. Firefox browser (usually the best, do NOT use Internet Explorer)
10. Java Standard Edition 5 (1.5.0_12)
11. Optional: Blackboard Learn App
    a. Download from your devices' app store, select California Lutheran University as the school and sign in via myCLU

Course Evaluations Statement

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All course evaluations are conducted online. Your feedback is important to us. You will receive an email message reminding you when the website is open for your feedback. The link is: http://courseval.callutheran.edu

Disability Statement

California Lutheran University is committed to providing reasonable accommodations in compliance with ADA of 1990 and Section 504 of the Rehabilitation Act of 1973 to students with documented disabilities. If you are a student requesting accommodations for this course, please contact your professor at the beginning of the semester and register with the Disability Support Services Coordinator, Wendy Jimenez, for the facilitation and verification of need. The Disability Support Services Coordinator is located in the Center for Student Success Office at 3259 Pioneer Street, and can be contacted by calling 805.493.3878 or emailing wjimene@callutheran.edu

Statement on Academic Honesty

The educational programs of California Lutheran University are designed and dedicated to achieve academic excellence, honesty and integrity at every level of student life. Part of Cal Lutheran's dedication to academic excellence is our commitment to academic honesty. Students, faculty, staff and administration share the responsibility for maintaining high levels of scholarship on campus. Any behavior or act which might be defined as "deceitful" or "dishonest" will meet with appropriate disciplinary sanctions, including dismissal from the University, suspension, grade F in a course or various forms of academic probation. Policies and procedures regarding academic honesty are contained in the faculty and student handbooks.

Plagiarism, cheating, unethical computer use and facilitation of academic dishonesty are examples of behavior which will result in disciplinary sanctions. Plagiarism includes, but is not limited to:

- word for word copying without using quotation marks or presenting the work as yours
- using the ideas or work of others without acknowledgement
- not citing quoted material. Students must cite sources for any information that is not either the result of original research or common knowledge.

Standards of Student Conduct Statements:

- Student Life Handbook
- Academic Honesty Statement

University Harassment Policy

Be civil to each other, both on- and offline. For information on the University's **student harassment policy and rights, please go to the following link:**
Student Life Handbook

Pearson Library

Pearson Library provides access to scholarly books, journals, ebooks, and databases of full text articles from scholarly journals. To begin using these materials, visit the library web page http://www.callutheran.edu/library
There are many ways to contact Pearson Library for research assistance, no matter where you are!

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- Email Madelynn Dickerson (Professionals liaison) at dickerso@callutheran.edu
- General Library email: CLUlibrary@callutheran.edu
- Library main phone: 805.493.3250
- Text us your question: 805.493.3867
- Get more help at: http://www.callutheran.edu/library/help/

Cal Lutheran Writing Center

The Writing Center provides 1:1 writing consultations, in-person and online, with trained undergraduate and graduate writing consultants. We welcome all writing-related projects at any stage of the writing process across the diverse disciplines of study at Cal Lutheran. The Writing Center also hosts writing workshops, provides in-class visits, facilitates writing groups, and offers a writer's studio option for longer, sustained projects. Services suit writers of all levels, including traditional undergraduates, graduate students from all fields, all English language learners, and accomplished scholars alike. All members of the Cal Lutheran community with an @callutheran.edu email address are welcome to make use of our services. For more information, please visit at www.callutheran.edu/writing_center or call 805.493.3257. Please schedule appointments online through MyCLU Blackboard with the yellow "The Writing Center" icon in "Tools," or stop by The Writing Center itself, located in the Darling Collaboration Suite of Pearson Library.

Veterans Resources

If you are a veteran, military member, or a family member of a veteran or military member, please refer to Cal Lutheran's Veterans Resources webpage for important information: http://www.callutheran.edu/veterans/ . Also, if you are a veteran receiving benefits and you are struggling in a class, you most likely qualify for free tutoring. Please contact the Veterans Coordinator, Jenn Zimmerman, veterans@callutheran.edu or 805.493.3648, for more information.

Sexual Misconduct

California Lutheran University does not tolerate any degree of sexual misconduct on or off-campus. We encourage you to report if you know of, or have been the victim of, sexual harassment, misconduct, and/or assault. If you report this to a faculty member, she or he must notify Cal Lutheran's Title IX Coordinator about the basic facts of the incident. More information about your options for reporting can be found at: http://www.callutheran.edu/title-ix/

Help Desk

Students may contact the Help Desk about telephone, network, wireless network, software questions password problems, hardware problems, and general consultation (i.e. you cannot log into your MyCLU portal, or you are having problems with Blackboard). Please email specific details about your problems to helpdesk@callutheran.edu, click on the following link for more information http://www.callutheran.edu/iss/technology_services/helpdesk.php or call: 805.493.3698

Final Note

This syllabus is subject to change. Every effort will be made to alert students to changes that occur in a timely manner.

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